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TESTS OF INSANITY.*

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Without doubt, any person who has read as much and thought as much upon the subject of insanity as each one of you, gentlemen, has done, realizes fully how difficult a thing it is to enunciate, in any short formula of words, or to make it clear by any brief description, what insanity is. And you cannot have failed to feel that the definitions which have been given by various and learned writers, have by no means been perfect definitions; that is, they have by no means distinguished insanity from everything else. And you no doubt have failed in court to make it evident to the unwilling apprehension of a sharp, cross-questioning lawyer whether there be such a state as insanity at all.

Dr. Combe has given us, perhaps, the best definition on record, to wit: "Insanity is a prolonged departure, without an adequate external cause, from the modes of thinking and the state of feeling usual to the individual in health." And nothing is more certain than this, that in considering whether insanity exists in a given case, the person's *present* state must be compared only with

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his usual and ordinary state, and not with any absolute or assumed notions of mental rectitude. Men differ so widely in their conduct and habits, that what would be manifest insanity in one man, might only be the natural and healthy and common conduct of another. When Blondin stretches his rope over Niagara river and rolls his confrère over it in a wheel-barrow, it causes no suspicion of his insanity; but if Secretary Seward or the Rt. Rev. Bishop of the Diocese should suddenly undertake such a trick, you would reach a different opinion of their mental state.

Practically, there is not often any great difficulty in *recognizing* a case of mental disorder; but often there *is* a difficulty in describing it to others, and this is because most of the common marks of insanity are comparative and not absolute. They are clearly enough marks of insanity when seen by the side of the individual's usual manifestations, as departures from his usual state of feeling and mode of thinking; but they lose their significance when exhibited absolutely, or as mere facts.

It has seemed to me that there is, however, a peculiarity in the state and manner of action of the insane mind which, though not entirely removed from the above category, is always present and almost always so characteristic of insanity, as to be worthy of notice, and able to give us often decided aid in coming to a just conclusion in doubtful cases of alleged disorder, and although this is hinted at in books, I do not remember to have seen it distinctly pointed out.

We all know that with the insane *self* becomes the central point of interest—the important consideration and the *authority*. I do not mean to say that when a person becomes insane, he necessarily becomes indifferent

to others, or entirely selfish in the ordinary sense of the word, or that he always abandons his pursuits or friendships, or whatever he has previously been interested in. But we all know how soon it is seen that his *relations* to everything and person are more or less changed by the different estimation in which he has unconsciously grown to hold himself. Upon any subject within the circle of his disease, facts and external circumstances have little or no influence with him. His convictions come from his own personal laboratory. They are original. Sometimes they are strictly intellectual results; often they grow from a morbid emotion. But they are coined by *him*, and not received from another. And they are ultimate authority to him. No sane man is ever half so sure of any most palpable truth as an insane person is of the infallibility of his own convictions. "I know it is so," and upon this he rests without a shadow of a doubt. "I know it is so," and this is more to him than all the facts and logic of the universe. Because his own opinions are not received, or are even scouted, never leads him to distrust or examine them, or even for a moment disturbs the ineffable complacency of his belief. In the more demonstrative and self-reliant forms of mental disease, the truth of the above will be recognized at once, but in the self-deprecating forms, as some phases of melancholia, the first impression might be a contrary one; but a little examination will show that however much a person may insist upon his vileness and utter unworthiness of the regard of God or man, still he is immovable in this belief of his vileness and unworthiness. "He *knows* it *is* so," and this to him, though it be the opinion of such a wretch as he holds himself to be, is of more weight than anything else *can*

be, though backed by all the piety and good judgment of the race. This egotism, this infallibility of self, we all know to be universal with the insane. Now, to trace this trait back one step to its cause or mental antecedent, we come to this fact, that the insane mind comes to its conclusions by *intuition*, by the intuition of disease, of course, still by intuition. A healthy mind by the senses gathers facts, compares them, reasons upon them, and comes to an opinion. An insane mind inwardly begets a conviction with which it starts, and then gathers facts to support that conviction, if it is of importance to gather them at all. This is the quality of the insane mind which I have thought to be, oftener, perhaps, than any other, constant and distinctive, and therefore symptomatic and useful in diagnosis. This infallible knowing by intuition or by the instance of mere feeling.

Another general sign of mental disorder which has been too little estimated, and often estimated wrongly, is the inconsistency of the insane. We have no doubt been misled by the celebrated definition of Dr. Locke, which is, "Madmen do not appear to have lost the faculty of reasoning, but having joined together some ideas very wrongly, they mistake them for truths, and err as men do who argue rightly from wrong premises." Some insane men do argue rightly and keenly from wrong premises, but is this the case with all or many? And when we come to the conduct of the insane, is not all logic at fault? Is not one of the notable and distinctive characteristics of insanity its inconsistency with itself?—and yet it is a popular notion that a mono-maniac only *starts* wrong, and that his conduct and conversation are consistent with his wrong starting. Indeed, it is a maxim in English law that a man acting under an in-

sane delusion acts consistently therewith, *i. e.*, acts as a sane man would were the delusion a truth. To be sure, a man who believes that he is a dog, may bark and do what else he can to imitate the brute, and a man who believes that his toes are glass, will take good care of them. But when we follow out even these cases, we find them full of inconsistencies, and when we come to another class, it needs but the stating to show that consistency is not apparent. For instance, I have seen a man who insists that he is *dead*, but he talks and eats and reads the papers, and does many other things which dead men do not commonly do. I know a man who declares that he is the Almighty, but forgetful of his high responsibilities, he sleeps soundly every night, he chews tobacco, he loses his temper, and swears in a style suggestive of anything but divinity.

I allude to this as showing that the inconsistencies of insanity may oftener serve us as proofs thereof than they commonly have done.

Lastly, there is another general sign of insanity, mentioned in all our books, which I believe I am not wrong in saying is not studied enough, nor often enough used by us as a practical *test* of disease. We are all familiar enough with it, and influenced by this familiar knowledge, whenever a patient is brought to us who must be unerringly selected from the company of his sane companions, but we do not analyze it thoroughly enough to serve us in deciding a doubtful case. What I mean is found in the changed and peculiar expression of the countenance, of the eye, of the manner, movements, attitudes, etc. Outer proofs these of a morbid inner condition, which can hardly be depicted to the inexperi-

enced, but are learned by an acquaintance and domiciliation with the mentally diseased.

Dr. Bell remarks, in an unpublished paper, that "all profound and grave maladies have their specific physiognomy more or less clear and capable of being described; some of them awfully clear and pathognomonic like the odor of cancer or the face of advanced phthisis. Insanity has its own delicate characteristics of face, eye, manner, reasoning, feeling, which can be read by the expert, but which are not appreciable to the casual observer. His power in this regard is not capable of being transferred to another mind, but must die with its possessor. To illustrate: let there be a miscellaneous mass of insane hospital letters intermixed with an equal quantity of correspondence from the 'dead letter office,' I undertake to say that there shall be a certain ear-mark, so to speak, applying to the former which shall enable the expert to select it without much hazard of failure."

PATHOLOGICO-ANATOMICAL MANIFESTATIONS OF INSANITY.*

TRANSLATED BY J. WORKMAN, M. D.

When we take under deliberation the anatomico-pathological records of psychiatry, we proceed in our task not without hesitation, and a certain degree of mistrust in a large proportion of the observations laid before us, or rather, perhaps, in their value in relation to mental therapeutics. However remote from our purpose it may be, to mistake the instructive importance of this branch of medical science, we must yet, at the very outset, confess that the pathological anatomy of mental diseases still presents numerous unsolved problems, which it is our duty to indicate.

We find that a large proportion of all the diseases which affect the brain and spinal marrow run their course without the slightest psychical disorder. On the other hand, the more delicate differences, (*i. e.*, between the healthy and the diseased state,) which may be presented, (and it may with fair probability be assumed that such minute transformations exist,) have hitherto evaded our means, or rather, perhaps, our methods of investigation.

Nor should we forget that it is not in the central nerve system alone, or at least not always there, we should seek for the foundations of psychical disorders; and that we ought to distinguish clearly between pri-

* Pathologie and Therapie der psychischen Krankheiten für Aerzte und Studierende bearbitet von Dr. Maximilian Leidesdorf.

mary and secondary agencies. This distinction appears to us to be sometimes less rigidly, or less correctly made than it should be; but it must be admitted that sometimes it is certainly very difficult to exhibit it.

It is still incumbent on us to assume that every mental disorder, however it may commence, whether as a simple mental loss of tone, or as fully declared insanity, is founded in organic changes, from which the brain suffers, (*erleidet*,) and these changes may commence in it either primarily or secondarily. After disposal of the primary diseases of the central nerve system, there yet remains for our pathological research a wide field, in which we should endeavor to discover the connection of these diseases with those of other organs, and to determine the relation subsisting between the former and the latter.

At the outset of our inquiries, the blood, its motor-organ, the heart, and the canals through which the blood makes its circuit, force themselves on our notice; after these, the organs of respiration, and in wider range, with more or less instancy, all the remaining organs of the body. The immediate relation to the brain of those morbid processes, which are developed in both the hard and soft envelopes of this organ, and necessarily become very influential on its functions, demands careful consideration. On the very threshold of our investigations, we are met by the question: Whether the functional disorders of the brain rest always upon nutritive or formative disturbances, which may be capable of anatomical detection? This question we at once answer by a decided negative. The disorder of excitement, (abnormal stimulation,) may certainly proceed from nutritive stimulation; that is to say, an existing nutritive or formative stimulation, (excitement,) may

cause functional disorder: but the demonstration of definite changes in the arrangements of the brain elements, and an altered exchanging process in them, leading to functional disorders of a psychopathic form, is a labor outside the realm of possibility; and however valuable may be the conclusions arrived at, from pathologico-anatomical researches generally, and on the brain in particular, yet we do not flatter ourselves that we shall be able to account for every mental disorder by constant changes in the brain.

From pretty extensive research, it is our conviction that, in many mental disorders, search may be made in vain for any pathologico-anatomical changes, and that in a probably large proportion of cases, no definite anatomical changes will be discovered. This holds good, in the highest degree, in relation to the so called primary disorders.

When psychopathy leads to death, then naturally we may say, pathologico-anatomical investigation is not resultless; when it is undertaken with the proper knowledge of the structures examined, it is very rarely so. But we must frankly admit that we have before us merely the final issue of a certain process, and a retrospective decision upon the antecedent anatomical disturbances, is often but mere conjecture; yet we firmly believe that when once mental diseases come to be regarded as a process consisting of various progressive stages of development, or a residual process resting upon some particular degree of development, we shall then succeed in studying and demonstrating this pathologico-anatomical commencement, as well as their advancement and final issue, in a great number of cases.

Our present pathologico-anatomical views have, from

an overruling necessity, their initiation in the final morbid issues presented to us; and of late years psychiatry has been largely enriched by Rokitansky's classical work on incrementation of the connecting tissues (*bindegewebswucherung*) in the nervous system, which has since been appropriately followed up by Prof. Wedl's valuable researches on the pathology of the blood vessels.

The author devotes considerable space to the

ABNORMITIES OF THE SKULL.

But as these are, to the psychiatrist, of trivial value, we have deemed their introduction here uncalled for, with the exception of the two following:

ROKITANSKY'S GRAVID OSTEOPHITE.—This formation may be developed from the third month of pregnancy, onwards, in the form of plates, on the inner surface of the skull, especially on the frontal and parietal bones, where it is most considerable. In many cases we find similar bony layers on the outer surface, but in general in the form of a delicate coating. This disappears before the end of gestation, consequently it is unjust to designate it puerperal osteophite. But though this is the usual fact, or, so to speak, the normal issue, yet cases are met with in which the plates remain permanent, and in repeated pregnancies new layers are deposited on the inner surface of the formation, so that finally a considerable diminution of the cranial space may thereby be produced. Whether this may stand connected with mental diseases, we cannot as yet pronounce; but we may give full credit to Griesinger when he expresses the opinion that it is permissible to hold, that gravid osteophite may be regarded as connected with many of

those conditions of melancholy disorder, and psychical caprices, which are observed during pregnancy.

Caries of the Petrous Portion of the Temporal Bone.—This disease mostly proceeds from the cavity of the tympanum, or from inflammation of the labyrinth; it leads to separation of the dura mater, or to sinus-thrombus, and then lays hold of the cerebral membranes, or of the brain itself.

We generally find it associated with basilar meningitis, and abscess of the middle lobes. But though the caries of the bone has a chronic course, the inflammation of the meninges and the brain is usually acute, and it terminates life under the appearance of meningitis.

It is certainly remarkable that though Jacobi observed seven cases of insanity combined with caries of the petrous portion of the temporal bone, yet similar cases have been rarely observed in the Hessian rather large asylum.

Abnormities of the Meninges.

Abnormities of the Dura Mater.—The structural morbid affections of the dura mater, and the new formations proceeding from it, merit our chief attention.

Hyperæmia of the dura mater seldom exists independently; it is almost always associated with hyperæmia of the other cerebral membranes. The vessels appear as if injected, especially on the outer surface; and nothing farther than this is observable.

Inflammation of the dura mater most usually falls upon only one side of the membrane; it is very seldom observed on both the inner and outer surfaces, and the issue of inflammation in these different surfaces is different. From the relation of the dura mater to the cranium, inflammation of its outer surface, especially in

an acute form, may be followed by the most serious consequences.

Rokitansky alludes to limited inflammations of the outer stratum, and to the more formidable, which succeed to injuries, or are produced by caries of the skull. Virchow designates inflammation of the dura mater *pachymeningitis*, and it is much to be wished that this term should be generally adopted, for we are quite unable, in the perusal of the cases heretofore included under the collective name, meningitis, to know which of the cerebral membranes has been the seat of the inflammation.

Virchow designates pachymeningitis *external* or *internal*, according as its seat may be in the inner or the outer stratum of the dura mater. The former appears, in its lower grades, as an injection, succulence, and flabbiness of the outer surface, and it proceeds speedily to production of pseudo-membrane, by which the dura mater may undergo a great increase in thickness. It generally ends in recovery, but it remains perceptible in its pseudo-membranous residue, and the consequent adhesions to the inner table of the skull; a post mortem condition very often observed amongst the insane. In sclerosis of the skull, accompanied by inward hyperostosis, this adhesion is also very usual.

In some more serious cases, inflammation of the outer stratum may run to suppuration and the pus will be found deposited in larger or smaller collections or clots, between the dura mater and the cranium.

This form of pachymeningitis externa is almost always of traumatic origin, or connected with caries of the skull. In the former it provokes absorption of the inner table of the skull, or necrosis. Rokitansky mentions, as an

issue of this prevalent inflammation, the appearance of flat, glandular, cheesy masses on the outer surface of the dura mater, which have pitted themselves into the skull.

Very different is the pachymeningitis interna, though, like the external, it rarely manifests any considerable post mortem effusion; this process is but seldom verified on the dead subject, but the products of antecedent inflammations are largely indicated. Whether these products are issues of an active, or of a chronic process, our present knowledge in morbid anatomy does not enable us to decide. As the chief product of the inflammation, we find first a brine-like coating on the inner surface of the dura mater, and beneath this small vascular growths are discernible. With the organization of this jelly-like membrane, in a more or less fibrous form, commences the deposition of the soft pseudo-membranes, and it proceeds until these, apparently, almost entirely vascularized, attain, through continuous increases, the thickness of one or of several lines, and consist of a single layer, or of many layers. Here and there are found ruptures of the recently formed vessels, especially in the earlier stages, and consequent on this, hemorrhagic deposits, which indicate their previous existence by rusty brown pigment flakes in the pseudo-membrane.

These inflammatory processes, so rarely leading to suppuration, occur either as primary or as secondary morbid conditions, and are most commonly met with in the insane.

The many-layered pseudo-membranes generally ossify in considerable plates, but frequently also in circular forms, or in small plano-convex pieces, which are generally easily separated from the dura mater.

In most cases we find hyperostosis of the skull, ridging of its inner table, especially in the frontal region,—adhesion of the dura mater to the skull, opacity, and ridgy thickenings of the inner membranes.—(Rokitansky.)

Among the pseudo-plasms which grow from the dura mater, there are to be noticed sarcoma and lipoma; the latter, according to Meckel, very seldom proceeding from the inner surface. Virchow mentions also hæmatome of the dura mater. We also meet with carcinoma, in its various forms. Tuberculosis is very rare.

Carcinoma of the dura mater grows both inward and outward; in the latter direction it erodes the skull, and in the former it imbeds itself in the brain, and forms attachments with the arachnoid and pia mater. Cancerous tumors of the dura mater, on either its outer or inner surface, and of round, or flat round form, have been described by some writers under the name of *fungus of the dura mater*. We have most usually found them to proceed from the inner surface, in the form of medullary carcinoma, generally associated, especially the smaller sized, and in bulk about equal to a pigeon's egg, and thus constituting the fibro-plastic growths of Lebert.

If the growth proceeds from the outer surface of the dura mater, the skull will in most cases be soon penetrated, and the growth, enlarging outwards, will be, as it were, ensnared in the orifice, till finally, having disorganized both the hard and soft structures opposing it, it spreads and enlarges totally uncovered, and usually runs into decomposition, destroying the patient by septic poisoning, by repeated hemorrhages, or by meningitis.

Förster has found also the epithelial cancer proceeding in this form from the dura mater.

The preceding growths from the dura mater are not found in the insane more frequently than in the sane, consequently we must not regard them as having any necessary connection with mental disease.

Before proceeding to the diseased conditions of the arachnoid, we would make a few observations on thrombus and inflammation of blood vessels of the dura mater.

Thrombus of a sinus appears either as an escape of blood from the veins of the soft membranes, or from the contiguous part of the sinus itself. Thrombi are deserving of attention, as proceeding sometimes from marasmus, (atrophy,) and sometimes from inflammation of the sinus with which they are connected. The vessel most commonly affected is the great falciform sinus.

In whatever way an obturating thrombus may originate, it is, as such, of the utmost import to both the brain and its membranes. Unless under unusually favorable circumstances, the collateral current speedily augments, and thus compensates for the interrupted circulation, passive hyperæmia, œdema, meningeal thickenings, and various varicosities result. The thrombus, if it has not already done so, soon extends itself so as to obstruct all surrounding vessels. In the brain, especially in its cortical portion, we find œdema, which has been evoked by aggressive and destructive hemorrhages.

Abnormities of the Arachnoid and Pia Mater—Arachnoideal Hyperæmia—Hyperæmia of the Pia Mater.—Rokitansky makes the following observation on these affections: "Although we but seldom have the opportunity of seeing the arachnoid in a state of real vascular injection, yet there are numerous structural changes which must have proceeded from hyperæmia of

this membrane, and of the pia mater." We shall therefore briefly treat of the pathological processes of both membranes together, as meningeal anomalies, and separate them only where it appears necessary. Hyperæmia of the meninges is an apparently common diseased condition, and it has, for the specialty of insanity, a peculiar interest. Our first inquiry must be as to the causes of this hyperæmia; and here it becomes manifest that it is most generally induced by some process which causes a stagnation of the venous blood, either in the superior veins only, or mainly in them. We have already pointed out one morbid process, that of thrombus of the cerebral sinuses, as a cause of meningeal hyperæmia. Besides this cause, we may instance contraction of the foramen lacerum, and the various diseases of the heart, which produce obstruction of the venous circulation; also those lung diseases which obstruct the pulmonary circulation, and thus hinder the discharge of the blood into the right (?) ventricle, such as lung emphysema, pleuritic exudations, etc. We might here also instance the many times denied, and as many times affirmed *hyperæmia ex vacuo*, in atrophy of the brain. All these are passive hyperæmias; but active congestions, vascular commotions, (*Wallungen,*) are also presented, and as causes of them we must refer to excitation of the meninges themselves, (ubi stimulus, ibi affluxus,) and to an aroused activity of the left ventricle, especially when it is hypertrophied.

Whenever any such meningeal hyperæmia arises, from whatever cause, the cortical surface of the brain, for obvious anatomical reasons, speedily takes part in the disease; and this fact is of the highest moment to the physician. The vast importance of cerebral hyperæmia

in mental diseases must be abundantly manifest from its own very nature. We may well believe that this morbid condition is present in the majority of cases, as the primary pathological state.

As the first consequence of acute meningeal hyperæmia, we have to mention hemorrhage, which, either in small clots or in streaks, appears on the membranes, and very commonly we find associated the so called capillary hemorrhage of the brain.

Though meningeal apoplexy is very often met with in children, (Barthey and Rilliot,) and is the cause of most of the sudden deaths of the new born; we find it unfrequent in adults, with the exception of those cases caused by fractures and other injuries of the skull.

Those hemorrhages which proceed from the arachnoid, over the convexity of the cerebral hemispheres, are well deserving of notice. This extravasation escapes into the formerly so called arachnoideal sac, and likewise between the dura mater and the arachnoid, into a space which we must regard as created by itself, as we find the hemispheres compressed and flattened by it. In such cases, the separation of the constituent elements of the blood seems speedily to commence, and therefore it happens that the extravasated fibrin forms on the periphery a sac, of the form of the above indicated space, and thus envelopes the other constituents of the extravasation. The contents of the sac, nearest to itself, consist of fibrin, and accordingly as the contained fluid is more or less colored by transformed pigment, it appears red, or yellow, or yellowish brown. The outer surface of the sac appears smooth and glossy, but the inner, clotty and fibrillated. The quantity of contained fluid varies from a few ounces to a pound, and it is at the

commencement always of a dark red color, and continues so until the blood by transformation becomes variously colored, and finally after the complete precipitation of pigment, it becomes colorless and transparent. After longer continuance, the wall of the sac becomes organized into vascularized membrane, and completely shuts in its more or less metamorphosed contents; or the fluid is resorbed, and the walls of the sac approximate, and may be reduced to a single thick laminated pseudo-membrane. Rokitansky has observed that in such cases, the parietal bone is thinned; but in other cases it has been thickened.

It is manifest that resorption of the contents of the sac can but seldom occur, as the brain after long continued compression does not easily become extended again; yet a few such cases have been observed.

More trivial extravasations appear to occur frequently. They leave behind them a brown-red lamellated membrane, of more or less thickness or thinness, and are usually attached to the dura mater. All these hemorrhages are found commonly enough in the insane; but they cannot be brought into any classified relation with the different forms of the mental disease.

A further result of meningeal hyperæmia, we find to be thickening and opacity of the meninges, together with enlargment of the Pacchionian granulations from the arachnoid. The latter usually penetrate the dura mater, and press into the great sinus, or imbed themselves in the skull.

Another of the results of these meningeal hyperæmias is the collection of serum between the membranes, constituting the so called œdema of these parts.

Thickening and opacity of the meninges appear some-

times as an extensive darkening, (Undurchsichtigwerden) and sometimes in the form of tendinous spots or stripes, which accompany the blood vessels. This condition is very often associated with œdema.

Inflammation of the Meninges—Arachnitis—Meningitis.—Inflammatory derangements of the nutritive process fall with equal incidence upon the arachnoid and the pia mater, and we but seldom meet with arachnitis alone, or with an isolated inflammation of the pia mater.

In *arachnitis*, the exudation, in a few cases, appears on the outer surface of the arachnoid, generally as a purulent coating, of some lines thick, after wiping off which, the pia mater is found uninjured, or merely in an œdematous state.

Meningitis proper appears, according to Rokitansky, in two forms. In the first we find a more or less turbid, thin, milky or thickish, yellowish or yellowish-brown fluid, or again a more consistent, curdled product, lying between the arachnoid and pia mater, and eithe widespreadr or collected in particular places, and often constituting distinct seams around the larger vessels. This inflammatory product holds close to the cerebral periphery, and the process is extended only in the highest grades of the disease, to the meninges on the base. It always appears most conspicuously on the great hemispheres. Their cortical portion is, there, because of its intimate connection with the pia mater, always transformed; it appears ridgy, pale, very tumid, and here and there sprinkled with small extravasations.

This meningitis may be either a primary or a secondary affection of the meninges; in the latter form it may be connected with pneumonia, or inflammation of the serous sacs, (? of the thorax.)

Rokitansky's second form consists in this, that between the pia and arachnoid of the base of the brain, a greyish, pasty, inflammatory product is met with, manifestly of tubercular character; that is to say, consisting of small, pale-grey, tuberculous knots. These formations are met with most remarkably in the fissure of Sylvius, and about the chiasma. This inflammation is, in all cases, associated with acute hydrocephalus, and we invariably find the ependyma of the ventricles, especially upon the septum and fornix, in such cases, reduced to a white broth.

This meningitis is never primary. It occurs either as metastatic in sepsis, or as a tubercular meningitis in tuberculous patients. It generally proves rapidly fatal.

Meningitis is apparently but seldom discovered in autopsies of the insane, and it has, therefore, to the specialist far less interest than the meningeal hyperæmia, previously spoken of. In a few rapid cases of acute insanity, with furious excitement, meningitis has been met with. It is an altogether arbitrary assumption to designate, as not unfrequently has been done, habitual hyperæmia of the meninges, with opacity and œdema, and perhaps distension of their veins, as *chronic meningitis.*

Œdema of the Meninges.—The most usual œdema, in various degrees, we find as a collection of serum between the arachnoid and pia, of more or less yellow color, and of uniform distribution. It is generally combined with atrophy of the brain, and the former deep and wide furrows between the convolutions are occupied by the serum. It is next most usually found in drunkards, in those affected with heart disease, and in insane

persons who have suffered under severe excitement, (hyperæmia.)

Partial œdemas are frequently met with, of very great interest. After removing the dura mater, we would almost think that one or other of the cerebral convolutions is wanting, and the vacated space is filled by serous effusion between the arachnoid and pia, to such an extent that the former is, by the fluid mass, forced out in a bottle form.

The so called *hydrocephalus externus*, a collection of serum between the dura mater and arachnoid, in which the brain must be compressed sideways, (?) has not yet been distinctly observed.

ABNORMITIES OF THE EPENDYMA.

We regard, with Virchow, the ependyma as that rather thick part of the general containing membrane which holds together the nerve elements in one central organ, called by him the Neuro-glia; it lines the ventricles, and is covered with epithelium.

Hydrocephalus here claims precedent consideration, as it is to be regarded as a disordered nutrient process in the ependyma.

We widely distinguish acute hydrocephalus from the chronic form, and under the general head we do not admit external hydrocephalus, because not a single credible case of this form has ever come under our knowledge.*

* The author, in this passage, as well as in the preceding one, which we have marked with (?), broadly asserts his disbelief in external hydrocephalus. He may never have met with a case, and may therefore not regard as worthy of credit, ("*glaubwürdig*,") any that he has read of; still his disbelief can not annihilate fact. In the 13th volume of the JOURNAL OF INSANITY, page 15, July, 1856, the case

Acute hydrocephalus is rarely an essential primary disease of the ependyma, but appears, in a majority of cases, as an imflammatory nutrient disorder of the same, induced by the extension of inflammation from the basilar meninges through the foramen of Bichat.

When acute hydrocephalus terminates fatally, we find the ependyma presenting wavy ridges, or perhaps thrown into confused contortions, and the adjacent brain substance similarly affected. The latter has become transformed into a whitish, or, according to the tint of the effusion, a yellowish, yellowish-red broth. In general, however, this softening is induced by simple œdema, (collateral inflammatory œdema,) and in this fact is grounded the so called *white* or *hydrocephalic* brain-softening.

Farther from the ependyma, the consistence of the brain presents the normal condition, and only a few lines may separate the diseased from the sound parts. The septum lucidum and the fornix are always the most remarkably transformed, and often appear as a mere white broth.

In the ventricles, which appear enlarged, we find, especially before the brothy softening and deliquescence have set in, an apparently inconsiderable quantity (about an ounce) of almost clear serum; most generally, however, this is rendered turbid and floculent, from inter-

of M—— C——, which, among others, was read by the translator before the Association of Medical Superintendents of Asylums, at the annual meeting held at Cincinnati, will be found to have been indisputably one of external hydrocephalus. Not less than a pint and a half of clear fluid was found between the dura mater and arachnoid. The symptoms of the case indicated meningeal inflammation.—*Tr.*

mixed epithelium, and the debris of the disorganized brain substance, and probably also from pus cells. In a few cases, and especially in those with pus formation on the basilar meninges, we find pus in the inferior cornua. This form of hydrocephalus commences in a few cases as primary, but in others, according to the circumstances of certain anatomical modifications, it advances to a chronic form; whilst in others again it commences as an inflammation of the basilar meninges, and thence proceeds to the ependyma, and terminates in effusion in the ventricles. In the last of these it occurs most abundantly in tuberculous subjects; it is met with in both children and adults, and, according to Rokitansky, even in the fœtus. In children it is occasionally associated with cerebral hypertrophy. The whole brain appears, in these cases, more moist and swollen than natural; the inner membranes over the cerebral periphery are bloodless and tender; the dura mater is distended, and the inner table of the skull is rough, from erosion.

In general, the course of the disease is fatal; only very moderately developed cases have recovered. Unless in those insane persons laboring under tubercular disease in their organs, this form of hydrocephalus is not frequent.

Chronic hydrocephalus may be either congenital or acquired. In the congenital we include also those in which, though the disease at birth is not manifest through the size of the skull, yet even from birth onward, the skull increases remarkably in bulk, and the patient finally becomes a hydrocephalic monster. This congenital hydrocephalus attains amazing development, even to the extent of ten pounds and over of deposited serum, in the ventricles, as the unclosed sutures offer no

resistance to distension. The brain is large, its convolutions are flattened and broad, and the inner membranes are bloodless and dry. In the most remarkable cases, the cerebral hemispheres float in the surrounding water, and between them we observe the broad corpus callosum extended upwards. In the cases of most enlargement, the roofs of the enlarged lateral ventricles become as thin as paper, and have the appearance of a mere thin layer of brain substance laid on the membranes, so that we might almost believe that the great hemispheres, as well as the corpus callosum, were wanting. The lateral ventricles appear like bags; their protuberances are flattened; the optic thalami are drawn asunder, so that the floor of the third ventricle is increased in width, but the cavity is not enlarged in its downward axis, as a bladder.—(Förster.)

Acquired chronic hydrocephalus has, only under certain circumstances, anatomical characteristics which distinguish it from the congenital form. If, for instance, it should be developed in a skull not yet fully ossified, then the size and form of the skull may gradually be transformed to that of chronic hydrocephalus; but if the disease occurs in a skull in which the sutures have already closed, or in which they are even partly united, then we cannot naturally expect any change of form. Although, from reasons quite manifest, the quantity of serum in the ventricles, in cases of congenital hydrocephalus, may be very considerable, yet in those of the acquired form it is seldom more than six to ten ounces.

Both forms may, if an arrest of the effusing process takes place, be of long duration, and yet we cannot assign to them any special group of symptoms. Even in relation to the psychical results, we must speak with

great cautiousness. It is well known that hydrocephalic children often manifest an unusually rapid mental development, and further that they often suddenly die under convulsions; and in such instances we may, with all propriety, seek for the cause, in a so called acute after-shove (*nachschub,*) with brain softening.

We have sometimes, in persons of the highest mental powers, found so much serum in the cerebral cavities that, adding to this fact the coördinate thickening of the ventricular ependyma, we have been forced to admit, over the dead body, the presence of chronic hydrocephalus. That, however, the disease in its most remarkable grades, is most common in demented persons, and that it is especially encountered in those who, in consequence of chronic alcoholic poisoning, pass into dementia, and finally sink, with or without paralysis, is a well known fact.

To attempt to bring the various forms of mental disease, but especially the primary forms, into relation with hydrocephalus, is, as yet, entirely unpermissible. Chronic hydrocephalus proves fatal either by pressure on the brain and paralysis, or by the intercurrence of acute œdema, or by meningitis.

Rokitansky has mentioned yet another form of acquired chronic hydrocephalus, necessitated by a vacuum in the cranial cavity. If, for instance, the brain in process of atrophy becomes retracted and shrivelled in, then it usually happens that what the cavities gain in space thus vacated, (and among the others, the ventricles,) is filled up by effusion of serum. (*The effusion from hyperæmia by means of vacuum*, page 420.)

To this form appertains preëminently *senile* hydrocephalus, in which effusion into the ventricles, from the

waste of old age, is induced. In these cases we always find thickening of the ependyma, and this is to be regarded in such cases as very probably a participation in the common condensation of the neuro-glia in the brain.—(Klob.)

We have already pointed out inflammation of the ependyma as the immediate cause of acute hydrocephalus, and we have also spoken of an essential as well as of an induced inflammation of the basilar meninges.

Among the new formations of the ependyma, that which claims our first attention is its thickening, through membranous growths; this, under the unopposed incitation of habitual hyperæmia, (chronic inflammation?) advances, and is either uniform, so that the whole one-fold ependyma appears thicker, often to the extent of a line or more, and feels leather-like and tough; or on the other hand, it feels rough, with fine granulations and thickenings in form of broad plaits are observed, in consequence of which enlargements of the ventricular walls are here and there produced. We chiefly, as has already been mentioned, meet with these conditions in chronic hydrocephalus.

Sarcoma and *Lipoma* of the ependyma are both rare; so also are new deposits of bone, as the result of membranous formations in form of small scales.

Medullary Sarcoma is very rare. In the lateral ventricles cellular cisticercus is sometimes found floating.

With respect to the abnormities of the venous plexuses, we have merely to mention that they are affected with morbid conditions similar to those of the basilar meninges, and they present similar morbid changes. The dilations of these vessels, sometimes met with, may merit attention; and likewise the so called cystic de

generation of their tufts, which are most prominently observable in old persons.

ABNORMITIES OF THE BRAIN.

Defect of some parts of the brain is a most unusual autopsic fact, and is but of very subordinate consideration in psychiatry; since we never, or very rarely, have observed, with exception of cases in which defect of the apparatus of the nerves of sense has existed, any particular symptoms present, which could be ascribed to the defect.

In like manner, it is not known that the absence of the corpus callosum has been accompanied by any manifestations, which, during life, had made themselves known.

The same remark holds good in many cases of asymmetry of the hemispheres, which is almost always associated with asymmetry of the skull, and is commonly caused by the latter; but the contrary may, as we have in another place remarked, be the fact.

HYPERTROPHY OF THE BRAIN.—By this we understand an increase of the brain, by new deposition of brain elements; that is to say, by integral growth of the constituent parts of the brain-mass. In a certain sense we can justly speak of a proper hypertrophy, so far as not, however, to involve the condition of transformation of the normal texture; it is hardly, however, to be assumed that the nerve elements themselves are the parts which undergo a numerical hypertrophy; it appears rather that in the process the neuro-glia alone increases, and Klob is of the opinion that paralysis and death ultimately result not often from the compression caused by the hypertrophy, but much rather from the disintegration of

the constituent elements of the nerve mass, through the enlargement of their envelopes, and especially in cases in which the skull has not yet closed.

We find, on opening the skull, the inner table is often rough, the dura mater is distended, and on raising it, the brain, as it were, gushes out. Tne inner membranes appear dry, bloodless, and very tender; the convolutions are flattened and broad; beyond an unusual strength of the medullary layers, and a remarkable paleness, nothing worthy of notice is observable. The ventricles are contracted. In the absence of other than these post mortem indications, we are forced to deny the presence of brain hypertrophy in the sense in which it has above been defined.

This hypertrophy, (which the author has just said is not hypertrophy in the terms of his adopted definition,) frequently occurs in childhood, and proves fatal. It may, however, steal in at a later period, and the head may assume the hydrocephalic contour.

Hypertrophy must frequently be regarded as the result of hyperæmia of the brain, but under what circumstances the latter is developed must be left as an open question. In children, hypertrophy occurs chiefly in conjunction with rachitis, glandular tumors, and interrupted involution of the thymus gland.

With regard to the relation between hypertrophy of the brain and insanity, nothing is yet known, and our investigations of the subject have as yet resulted in failure.

Cases of cerebral hypertrophy, in epilepsy, occur often. Scipio Pinel (Pathol. cerebr. page 339,) describes a few cases in paralytic dementia, (?).

Atrophy of the Brain.—This is either *total* or *partial.*

The processes through which it passes are various. The nerve elements and the ganglia may atrophise without complication, or they may do so with fatty or colloid degeneracy. On the other hand, the general bond-texture of the brain may retract, or become more or less callous, and may thereby act destructively on the respective brain elements suspended by it.

Hyperæmia and inflammation rank next as disponents to atrophy; but anæmia, and more especially ischæmia, may lead to it; the latter usually by way of fatty degeneracy.

In *general atrophy*, which is usually most fully developed in the medullary portions, we find the brain convolutions small, and the fissures between them very deep and wide. If we carry a section through the greatest breadth of the medullary portion, we observe that the centre of Vieussens is small, and the smutty whitish medulla shrinks along the line of section, and most where it runs out into the convolutions. The vascular canals all appear wide, and Rokitansky states that the retracted medullary substance around them feels like a wall.

The ventricles are always widened, and the ependyma is thickened. The medulla, under such circumstances, always acquires a remarkable consistence, and feels tough and leather-like. General atrophy is next found as a disease of age, though it may be met with in the marasmus of precocity; it is very common also in chronic dementia. In paralytic dementia it appears in the cortical portion of the brain, as the highest grade of brain wasting. We often, however, observe atrophy to be limited to merely a small portion of the brain, and in the majority of such cases it is nothing more than a residuum of a by gone encephalitis, which may often have been in

fœtal life. Both the partial and the general form of atrophy lead, as already mentioned, to a remarkable increase of consistence. The so called cerebral *sclerosis* is nothing more than the ultimate result of a very prosperous atrophy.

In like manner we have announced brain hypertrophy to be most usually an increased growth of the neuro-glia, so must we in general regard atrophy as a disease of the neuro-glia, in which, by its transformation into a fibrous texture, it leads to retraction of its contents.

Here and there this disease of the neuro-glia assumes the character of the structural metamorphose as well as that of the substituting exuberance; and this takes place when the nerve elements, in consequence of a further additional, or even of the continuance of the existing disorder, are destroyed.

We can readily suppose that under the influence of severe protracted hyperæmia, which very probably closely approximates to inflammatory disturbance of nutrition, the cortical portion of the brain becomes diseased in such a manner that its nerve elements perish, and at the same time the neuro-glia undergoes membranous incrementation; so that this new deposit, which at first was slender and soft, and afterwards has become hardened and retracted, displaces the perished nerve elements. A process of this sort is exhibited in the post mortems of the majority of cases of paralytic dementia, and was first pointed out by Rokitansky in his already cited work on membranous incrementation in the nerve centres, from which we extract the following passage:

The morbid changes which the cortical portion of the brain manifests, stand in close connection with contemporary or by-gone diseases

of the pia mater. It appears of a smutty brown, a dark, or a pale color, according to the character given to it by the hyperæmia. The outer layers appear, in the first stage, spongy, soft and moist, and upon separating the pia, they stick to it in observable streaks. In the later stages, when the membranous increment is more mature, they appear, as has been before stated, resisting, dense, and remarkably hard and blanched; finally, they seem like a hard, stiff, thin callous.*

In exquisite cases, the outermost medullary layers are no longer to be found,—they have perished.

In cases of dementia with epilepsy, according to Rokitansky, circumscribed callosities in the cerebral medulla, and in the corpora striata, should be found.

In addition to the preceding morbid conditions, we meet with colloid and amyloid corpuscles in considerable quantity. We also find varicosities of the veins, and aneurismal widenings of the small arteries, opacity and thickening of the arachnoid, and pseudo-membranes on the inner surface of the dura mater.—(Pachymeningitis interna.)

This form of atrophy (? epileptic,) is generally associated in its histological nature, to a concurrent atrophy of the medullary portion of the brain, and in such we encounter the highest grades of the disease. We shall have occasion to revert to the development of this process in subsequent passages.

Hyperæmia of the Brain.—Cerebral hyperæmia is, as hyperæmia of any other organ, either a so called *active* fluxion, with the character of vascular ebullition, or it is a *passive* one. We may dispense with this distinction, if, in relation to the brain, we designate the former *primary*, and the latter *secondary* hyperæmia. In the normal state of the attractive relation between the blood and the textures, the

*Rare facts, we believe.—*Trans.*

brain substance is able to secure to itself the nutrient excitation of its own demand for blood; and we believe more consideration should be attached to this circumstance than to the space relations between the brain and its bony case, to which, by so many writers, so much importance has been attached. If we reflect upon the attractive relations more closely, or in other words, on the exaltation of the excitability of the brain on one side, and on the nutritive excitation on the other, we easily come to the conclusion of resulting hyperæmia; nor is it a distant assumption, that in a certain degree of intensity, psychical exacerbations may produce hyperæmia of the brain, and thus act as an immediate excitation to it.

But we believe that although hyperæmia in this manner appears as somewhat secondary, and the psychical impulsion must be regarded as primary, yet the prolongation and augmentation of the once aroused morbid condition must be actually linked with the anatomical changes which the hyperæmia first induced. We have, therefore, on anatomical grounds, held firmly by the already indicated division into primary and secondary hyperæmia.

Under *secondary* hyperæmia we understand only that which, for example, through impeded reflux of the venous blood, is induced, and also that resulting from vacuum, in cerebral atrophy.

That hyperæmia which is developed in hypertrophy of the arterial heart, belongs to the *active* form.

The anatomical characteristics of hyperæmia of the brain consist in a certain swelling of the organ, with a dark redness of the cortical portion, as well as of the central grey parts. On cutting through the medulla, we

observe an unusual number of blood points, of enlarged size; the meninges and venous plexuses appear generally much injected, and at the same time more moist than usual from œdema; and in conjunction with this condition, we find a ridging or puckering of the membranes, especially of the cortical layers. As the immediate result of hyperæmia we observe widening of the vessels, which affects not merely the capillaries, but also the veins, especially in the passive form; and the latter are found manifestly varicose, particularly in the meninges. That, under the influence of hyperæmia, not only œdema may be induced, but likewise more profound associated disorders in the series of progressive metamorphoses, is beyond all doubt. As one of the most serious consequences of hyperæmia, we must instance *hemorrhage* in its various forms.

Hyperæmia of the brain is either developed suddenly, and thus leads, with the early supervention of some of its results, especially œdema or hemorrhage, to early death; or it produces, in its well demonstrated manner, longer enduring and permanent transformations of the brain substance, which being once developed, proceed undeviatingly onwards; or finally the hyperæmia may be transient, and may give place to the normal condition.

Anæmia of the Brain.—Anæmia of the brain is either a participation in general anæmia, or it falls upon the brain alone, and it is in the latter relation especially of extraordinary importance. Overlooking the well known causes of general anæmia, we merely state that in relation to the second form, it is most usually caused by contraction or closure of the vessels leading to the brain, or of the canals through which they enter. An anæmic brain appears pale, and in most cases moist; in its section

we observe few or almost no blood points, and the vessels are collapsed. This is the proper place to speak of the *ischæmia* of Virchow, as that condition in which the arterial current is retarded, or suddenly cut off by means of thrombus, or by clotty obstruction. Under these circumstances, as is manifest on physiological grounds, œdema or hemorrhage is sooner or later developed, consequent upon the collateral pressure on the neighboring small vessels.

Let us suppose, for example, an artery of the fissure of Sylvius suddenly embarrassed by a stray plug, ischæmia is speedily developed in the corresponding part of the medullary portion, and the same symptoms are presented as if the parts embraced were destroyed by hemorrhage. With the sudden cessation of the arterial circulation, the function of the corresponding part terminates, and Virchow's *apoplexia ischæmica* is manifested.

In melancholia and dementia cerebral anæmia is a very common, and often the only post mortem discovery.

Hemorrhage of the Brain.—This is a comparatively rare fact in post mortems of the insane. After cerebral hemorrhages there remain appreciable psychical impairments, and in some cases the hemorrhage is the cause of mental disorder, and from this forward dementia and cerebral atrophy proceed in unison.

We distinguish *hemorrhagia cerebre gravis*, as one extreme, from *hemorrhagia capillaris* as the other. The former is developed chiefly in heart and vascular diseases, in which the vessels become to some extent destroyed by fatty degeneracy, and it affects mostly the medullary portion of the hemispheres, and the corpora striata and thalami optici; it makes itself known in some cases by disorganization of the brain substance in the ventricles.

We have besides the preceding forms of cerebral hemorrhage, that which results from traumatic causes. Small blood deposits heal up; but this result is somewhat various, according as the hemorrhage is nearer the centre, or on the surface, or in the cortical layers.

In the central cases, the blood serum is resorbed, the fibrin is transformed into a membrane more or less colored by pigment, and either constitutes an apoplectic cicatrix, or encloses the unabsorbed portion of the extravasated serum, and thus constitutes the wall of an apoplectic cyst. In both instances we find as the residuum of the blood-color elements a rusty brown pigment.

In peripheral hemorrhage, which is usually caused by thrombus of the sinuses, or of the meningeal veins, and produces destruction of greater or less stripes of the cortical layers, there is established in the localities of the destroyed textures, in the form of incrementation of the connecting tissues, and deriving its material from the extravasated fibrin, a substitutional callus, which is found of a yellow color, imparted to it by the change of the blood pigment. With this callus, as a general rule, the pia mater becomes blended, and in consequence of the contraction of the former, a sort of vault is formed, having for its roof the arachnoid: this cavity is filled with serum.

Capillary hemorrhage affects either the cerebral medullary parts in their totality, or it extends itself into the medullary tract of the spinal cord. In the latter instances it is generally the result of acute diseases, (typhus, or the exanthemata, etc.)

In meningeal hyperæmia and meningitis, we find capillary hemorrhages in a few places in the cortical portion of the brain. Partial capillary hemorrhages ap-

pear likewise in the vicinity of cerebral tumors and inflammatory deposits; or, in acute hydrocephalus, in the ventricles.

For further information on these subjects we refer the student to the text books on pathological anatomy.

CEREBRAL ŒDEMA.—By cerebral œdema we understand an unusual quantity of contained serum within the brain substance, whereby it is, in general, rendered softer, moister, and heavier.

Cerebral œdema consists, according to its very nature, in an augmented effusion of serum into the cerebral textures, and consequently whatever tends to promote this, will be a cause of œdema. We distinguish the acute from the chronic form by reference to the time taken in the development.

It may, in general, be said that the more acute œdema is, the softer is the brain; in very acute cases the brain is reduced to a brothy consistence.

Acute œdema generally manifests itself as a partial affection, and in fact as the collateral of inflammatory deposits. Thus we often observe the ventricles, in inflammation of their ependyma, in a state of white brothy softening, (hydrocephalic, or white brain-softening,) and we find in the vicinity of encephalic deposits, or of pseudo-plasmen, which readily take on inflammation, a softening,—an œdematous destruction of the brain substance, in which it appears on section of the affected part, yellow, or yellowish, (yellow softening.)

Acute œdema, being as we have stated, most usually partial, is attended by results which vary according to its location. In hydrocephalus, death is usually the result of acute œdema of the central parts of the brain. We frequently also observe that death speedily, indeed,

sometimes instantly, follows collateral œdema with white or yellow softening of the cerebral mass, on the entrance of inflammatory disorder in and around extended pseudoplasms in the brain. Sometimes sudden attacks of hyperæmia end fatally, because of acute general œdema of the brain substance.

Chronic œdema is found especially common in anæmic persons, and in marasmus resulting from various diseases accompanied by wasting of the blood mass; also in tuberculosis, heart defects, typhus, sepsis, etc.

Among the insane we find chronic cerebral œdema very common, especially in melancholia, dementia, fatuity, (advanced dementia,) without paralysis.

Our own observations have not established the statement made by some others, that œdema of the brain is the distinguishing associate of melancholy with stupor.

Brain Softenings.—Three forms of brain softening have been distinguished according to their color,—the *white*, the *yellow*, and the *red*. We have already treated of the white softening as œdema of the brain substance, and as acute œdema chiefly occurs in the neighborhood of the ventricles affected with hydrocephalus, this form has also been named hydrocephalic brain softening.

If the serum escapes from the blood vessels in conjunction with red globules, then the softened mass is colored by the diffused coloring matter of the blood, and if the effusion has been of any long continuance, the parts appear, in consequence of metamorphose of the pigment, yellow, and we designate this condition of the œdema *yellow softening*. When, however, from direct hemorrhage, the brain appears softened to a brothy consistence, or when œdema is associated with destruction of small vessels, so that the extravasated blood is mixed

with the effused serum, the brain substance is softened and red colored; it appears not unlike a blood pudding. This constitutes the *red softening.*

Since this softening immediately follows hyperæmia, and is most remarkably manifested in cases in which hyperæmia can be regarded as the first stage of brain inflammation, it has generally been called the first stage of encephalitis.

All these conditions are found in the insane in about the same proportion as in the sane, and we therefore, in these pages, lay little value on them.

Inflammation of the Brain.—Cerebral inflammation is a disease apparently but seldom met with by itself; it never attacks the entire brain, but appears always in only particular portions. It is introduced by hyperæmia, which being accompanied by augmented transudation, results in puckered or ridged elevations of the membranes; and in addition we often find hemorrhage, as indicated by the softened dark red spots, already spoken of.

This red softening, (so called inflammatory,) is much more generally induced when once the exudation breaks down or splits asunder the brain texture in the inflamed spots, in consequence of which rupture of the small blood vessels is unavoidable. With the entrance of exudation, but especially with its further progression, and with the production of pus and the textural incrementation in the deposit, produced by inflammation, the aspect of the diseased part changes. A varying number of spots are observed, which are separated from the normal brain by collateral œdema and small blood effusions, and are, in some parts, soft and dark red, in others of a pale yellow color, and somewhat resisting; they contain more

or less œdematous fibrin, and here and there we see little gaps of clear serum, or serum rendered turbid by exudate elements, or by pus cells.

It is not, however, always very easy to distinguish one of these inflamed portions of the brain from carcinoma, and it requires much care to avoid falling into the error.

Encephalitis affects the medullary substance, or it confines itself to the cortical portion of the brain, in greater or less sections. It generally proceeds in a sub-acute form, and it appears in many cases to destroy life either unaided or through the accession of a wide-reaching collateral œdema in the brain mass. In other cases the disease advances to a fatal result by development of diseased conditions, secondary to itself, in other organs, especially under paralysis.

The *brothy softening* and the *cell-infiltration* of Durand Fardel have been mentioned as issues of encephalitis, wherein the resorption of the brain elements destroyed by exudation, has been made to appear possible, by the process of fatty metamorphose. In the cases of brothy softening, fatty metamorphosis enters into the inflammatory seat, so that in its place a soft, whitish-yellow broth is observed. In cases of cell-infiltration, certain fat metamorphosed parts are, by resorption, already removed, and we find, at the place of the original inflammation-seat, a delicate net work, the residue of the connecting and vascular textures of the brain, floating about in a milky or turbid milk-like fluid, in which the fat metamorphosed brain residue is suspended. The textural residue may, however, be the issue of textural (membranous?) incrementation; in which case the inflammation-seat, latterly occupied by a callus, has been desolated, and an encephalic cicatrix is left. If this callus is so

considerate as completely to fill up the inflammation seat, we may then properly speak of an issue of encephalitis in *induration*.

Brain abscess is sometimes a result of encephalitis, and it is characteristic that the contained pus is for the most part in a state of necrosis bordering on putrefaction. The abscess enlarges by an extending breaking down of its walls, so that it either opens externally or into the ventricles. Generally, however, there is formed from the wall of the abscess a callus which surrounds it, of some thickness, within which the pus may undergo cretefaction.

As causes of encephalitis Rokitansky mentions injuries, and the inflammations in the neighborhood of an extravasate pseudo-plasmen; also foreign bodies and hydatids. But encephalitis is also caused by inward agencies, as overstrained brain activity in marasmus, collateral hyperæmia in embolia, or stopping up of blood vessels from diseased action in them.

In the next place, encephalitis occurs as an extending inflammation, generally ending in abscess with caries and necrosis of the cranial bones, especially the petrous portion of the temporal. Many small abscesses are met with in sepsis, of metastatic character.

It is still very remarkable how comparatively seldom encephalitis is met with in the insane; and we are therefore not in a position to attach to it any importance in this relation.

With regard to the *regressive metamorphose* of the brain texture, nothing further remains to be said than that fat metamorphosis as well as colloid and amyloid degeneration, take place, and they are found particularly common in encephalitis and in textural incrementation of the

neuro-glia, as we have already mentioned. (See Virchow, vol. II, p. 135.) Sometimes we also meet with a sort of ossification of the remains of the nerve cords.—(Rokitansky—Förster—Bamberger.)

Pseudo-plasmen in the Brain.—Besides carcinoma and tubercle, we may mention *cholesteatoma*, or the pearly tumor of Virchow, which is generally a morbid growth of the pia mater, and most usually on the base of the cranium about the pons Varolii. We have also, but not often, *cysts*.

Carcinoma is met with mostly in the medullary form, in large round knots, either singly or in numbers, especially the melanotic, and is always associated with cancerous growths in other organs. In the brain it usually affects the medullary parts.

Tubercle of the brain is a morbid product of frequent occurrence. It appears in the form of rather large knots, which in the middle are of a yellowish white color and broken, but towards the surface reddish, and set either singly or in numbers between the cortical and the medullary portions. Here and there, after having undergone cheesy metamorphose, they advance to complete breaking up into a soft, purulent-like mass, and form cavities. Brain tubercle mostly affects young persons, laboring under tuberculosis of lymphatic glands.

Of tubercle and carcinoma we may remark that, as morbid formations in the brain, they occur quite as commonly in the sane as in the insane, a fact which is amply illustrated by the specimens in the Pathologico-Anatomical Institute of Vienna.

These diseases may often have been present for a long time without the manifestation of any striking symptoms, and those affected by them frequently die suddenly, and

our first knowledge of the fact is derived from post mortem section. The same remark holds good as to *cisticercus cellulosae*, which are found in the brain, often to the number of 60 or 80, without any antecedent psychical disturbance.

DISEASES OF THE CEREBRAL BLOOD VESSELS.

The vessels of the brain, and particularly the capillaries, are often primarily affected, and the influence of this form of disease upon the brain itself is, for very obvious reasons, most important; yet it has not hitherto received much attention. It is in the small arteries especially that Rokitansky's so called process of superimposition occurs. This process consists in an incrementation of the inner coat of the vessels, which may become so considerable that a formal contraction, and finally a complete occlusion, of their calibre results. The morbid internal thickening may undergo either atheromatose degeneration, or ossification. We find this disease, comparatively, extraordinarily common among the insane; and it is to be wished that a full exposition of the discoveries under this head were made known in a synoptical form.

The cerebral capillaries are often found in a manifestly distended state, which may be either primary or consecutive.

Wedl has observed newly organized textures directly proceeding from the interior of the vascular coats, which would certainly lead to closure of their tubes, with thickening, but which are also, however, met with in widened vessels, and in all probability they have been the cause of the widening in such cases.

In the next place we have to notice a widening of

vessels, without any incrementation of their coats, the result, no doubt, of habitual hyperæmia—Klob has found regular aneurisms in almost all the capillaries of the brain—once in secondary dementia, and twice in acute mania. Secondary vascular widenings are also met with as the result of retraction of the atrophoid brain substance. After protracted intermittent fevers we find, in conjunction with the pigmented tumor of the spleen (and liver,) sometimes, the cortical portion of the brain observably smutty-brown colored; this proceeds from accumulation of pigment corpuscles in the slender, thin capillaries. This accumulation very often induces closure of the brain capillaries, and ruptures of the vessels; and the symptoms manifested during life, as well as the frequently sudden form of death ensuing, stand connected with this pathological condition. From stopped up blood vessels organized textures also proceed, and although no cases of this sort are known to us, yet physicians of asylums who receive many cases from fever districts should keep an eye to the fact.

CONCLUSIONS.

We confess, indeed, that psychiatry receives but trivial positive benefit from the preceding facts. We might regard the pathological discoveries connected with paralytic dementia, as of the greatest weight and consistency; but we must not conceal the fact that this form of mental disease is, alas, a condition wherein therapeutic science has discovered its impotency,—a condition which exhibits to us merely the final result of numerous bygone morbid processes.

We have ascribed an extraordinary value to cerebral hyperæmia. It is beyond all doubt that every form of insanity, combined with high excitement, shows clear

our first knowledge of the fact is derived from post mortem section. The same remark holds good as to *cisticercus cellulosae,* which are found in the brain, often to the number of 60 or 80, without any antecedent psychical disturbance.

DISEASES OF THE CEREBRAL BLOOD VESSELS.

The vessels of the brain, and particularly the capillaries, are often primarily affected, and the influence of this form of disease upon the brain itself is, for very obvious reasons, most important; yet it has not hitherto received much attention. It is in the small arteries especially that Rokitansky's so called process of superimposition occurs. This process consists in an incrementation of the inner coat of the vessels, which may become so considerable that a formal contraction, and finally a complete occlusion, of their calibre results. The morbid internal thickening may undergo either atheromatose degeneration, or ossification. We find this disease, comparatively, extraordinarily common among the insane; and it is to be wished that a full exposition of the discoveries under this head were made known in a synoptical form.

The cerebral capillaries are often found in a manifestly distended state, which may be either primary or consecutive.

Wedl has observed newly organized textures directly proceeding from the interior of the vascular coats, which would certainly lead to closure of their tubes, with thickening, but which are also, however, met with in widened vessels, and in all probability they have been the cause of the widening in such cases.

In the next place we have to notice a widening of

vessels, without any incrementation of their coats, the result, no doubt, of habitual hyperæmia—Klob has found regular aneurisms in almost all the capillaries of the brain—once in secondary dementia, and twice in acute mania. Secondary vascular widenings are also met with as the result of retraction of the atrophoid brain substance. After protracted intermittent fevers we find, in conjunction with the pigmented tumor of the spleen (and liver,) sometimes, the cortical portion of the brain observably smutty-brown colored; this proceeds from accumulation of pigment corpuscles in the slender, thin capillaries. This accumulation very often induces closure of the brain capillaries, and ruptures of the vessels; and the symptoms manifested during life, as well as the frequently sudden form of death ensuing, stand connected with this pathological condition. From stopped up blood vessels organized textures also proceed, and although no cases of this sort are known to us, yet physicians of asylums who receive many cases from fever districts should keep an eye to the fact.

CONCLUSIONS.

We confess, indeed, that psychiatry receives but trivial positive benefit from the preceding facts. We might regard the pathological discoveries connected with paralytic dementia, as of the greatest weight and consistency; but we must not conceal the fact that this form of mental disease is, alas, a condition wherein therapeutic science has discovered its impotency,—a condition which exhibits to us merely the final result of numerous bygone morbid processes.

We have ascribed an extraordinary value to cerebral hyperæmia. It is beyond all doubt that every form of insanity, combined with high excitement, shows clear

indications of cerebral hyperæmia, in the great majority of cases, and that most generally the psychical disorder is the result of the cerebral condition which determines the hyperæmia, a condition which, in its incipient development, we are not, with our present state of imperfect information, in a position precisely to indicate.

If the hyperæmia passes off without any permanent morbid result being left, the psychical disorder disappears; but in opposite cases, when, in consequence of the hyperæmia, permanent structural changes and disorganization of the brain result, then the primary form of mental disease moves parallel to the physical process, into the secondary form, which is mostly incurable. In opposition to the concurrent views of Griessenger, Bartolini and Bottex, we must believe our own observations, which have shown us that in both melancholy and dementia, cerebral anæmia is most commonly the associate of œdema. If these forms of insanity pass into fatuous dementia, (secondary idiocy ?) then we find poverty of blood in the brain far more usually than the contrary. Whilst we may in general say that the curable forms of insanity mostly proceed with nutrient disturbances of the brain, without leading to deep disorganizations or textural metamorphoses, we find, on the other hand, in the incurable forms, conditions of disaggregation, or the so called regressive metamorphose of the textural elements of the brain, or manifest destruction of the whole brain, or of certain important parts, for example, the cortical portion.

THE ABNORMITIES OF THE OTHER ORGANS, AND THEIR RELATIONS TO INSANITY.

1ST. DISEASES OF THE RESPIRATORY ORGANS.—In the outset we must notice the transformation of the thyroid

gland, in the throat, in which, because of the growth of the lobes outwards and backwards, compression of the jugular veins may result, and with this, hindrance to the return current of the venous blood from the brain, from which will proceed hyperæmia of the brain, and its consequences. Formerly much importance was attached to the various diseases of the lungs, yet without any desire to depreciate the value of the leading facts, we cannot help recommending some precaution in the assumption of an immediate causal connection between lung and brain diseases.

Hyperæmia of the lungs may so react on the brain, in the passive form, that an accumulation of blood may take place in it simultaneously with that in the venous heart. We frequently find lung hyperæmia in drunken madness, and a similar condition of the brain.

Lung hypertrophy resulting from some forms of heart defect, is not unfrequent among the insane, and if, in such cases, we ascribe the insanity to the heart disease, then the psychical disorder and the lung hypertrophy are effects of one and the same cause,—effects which have no extended corelation.

Lung emphysema has, as an acute disease, an absolute influence over the brain, by its obstructing the pulmonary circulation, and the consequent stagnation of the venous blood; yet, as a chronic disease, and especially a senile emphysema, in general marasmus and senile atrophy of the brain, stagnation from this cause is seldom observed, probably because of the cöordinate atrophy of the blood mass.

In the marastic insane, and the paralytic insane with early marasmus, this morbid condition constitutes the post mortem topical discovery of the general disease.

Pneumonia is commonly found as the last disease in drunken insanity. Hypostatic pneumonia is the ultimate cause of death in many insane persons, who have long been confined to bed, and in whom the functional power of the heart, and of the respiratory muscles, has been prostrated. Metastatic abscesses are found in the lungs in such cases, associated with sepsis, in consequence of decubitus.

Gangrene of the lungs is a well known frequent morbid condition in patients who have refused food.

It is no other than one of the first (?) symptoms of inanition, and is very commonly associated with stricture of the œsophagus. In the insane asylum of Hesse, 827 autopsies gave 26 cases of lung gangrene, and about one-third per cent. of all the deaths were caused by it.

Tuberculosis of the lungs is, as is well known, a very common disease of the insane. In its relation to the brain, we must give prominence to the fact that the sub-acute forms of tuberculosis with wide spread infiltration, are certainly capable of producing hyperæmia of the brain, by hindrance of the pulmonary circulation; but, as a general rule in tuberculosis, partly through the associated marasmus, and partly through obstruction of respiration, there ensues so rapid a wasting of the blood mass, that the mental disorder manifesting itself in the progress of the tuberculosis, very commonly recedes, on the occurrence of anæmia of the brain (?). This holds true, especially of chronic lung-tuberculosis with phthisis.

We must here also mention *acute tuberculosis of the meninges*, occurring secondarily in lung tuberculosis.

Since no other disease, with exception of some rare hemorrhages of various sorts, tends so rapidly to anæmia, lung tuberculosis will, because of the resulting anæmia

of the brain always play a chief role in the post mortem manifestations of the insane.

Pleuritic exudation operates in like manner, by obstructing the pulmonary circulation, and finally by anæmia, especially in contemporary tuberculosis.

2D. DISEASES OF THE ORGANS OF CIRCULATION.—In insanity with a condition of excitement, we find hypertrophy of the left heart the usual autopsic fact, whilst in the forms of depression, the right side of the heart will often be found affected by hypertrophy (?) with dilatation, and, in like manner, exalted forms of insanity are induced generally by augmented impulsive force of the arterial heart, and depressed forms by obstructions in the venous system. Both forms of hypertrophy, with their various causes and wide extending morbid results, constitute a notable division in the autopsical records of the insane.

That form of *cerebral œdema* which proceeds from heart disease with general dropsy, will also fall under the attention of the pathologist of insanity.

The non-closure of the foramen ovale has, upon anatomical and physiological grounds, as has been repeatedly remarked, not the least influence on the circulation, and quite as little on the brain. According to the autopsical records furnished by Klob, this foramen was found open in 126 out of 300 subjects examined.*

* It might be very desirable that the author had stated the extent of opening remaining, and the age, and condition of life of the individuals examined. Having ourselves never met with an adult heart in which the *foramen ovale* remained patent, and having in a few cases, in which it did not close at birth, found that death took place, under *morbus ceruleus*, in a few days, (in one case, indeed, within two days,) we are disposed to doubt the harmlessness of non-closure.

Valvular diseases are attended with numerous disorders of the circulation. Vegetations on the valves of the left heart usually lead to *embolia* of the cerebral arteries, and its consequences.

The process designated by Rokitansky aggregational enlargement, (thickening ?) of the *aorta*, is found indisputably more common in the insane than in the sane.

3d. Diseases of the Liver and Spleen. — Liver *atrophy*, in its various forms, is an apparently common post mortem discovery in the insane, and is often associated with heart disease, in chronic cases, (granular liver.)

Rokitansky's red liver-atrophy is worthy of notice; though in its exquisite forms it is extremely rare, it is often met with in minor degrees.

The *fatty liver* is a well known common occurrence in drunkards and tuberculous persons.

Among the diseases of the *spleen* we should mention spleen-tumor in hypochondriasis, and atrophy in marasmus.

4th. Diseases of the Stomach and Bowels.—Stomach catarrhs are very common in drunkards, and persons laboring under heart disease. The perforating ulcer is occasionally noteworthy as the cause of anæmia.*

Widening of the stomach is met with in persons who have suffered long hunger, or insatiable appetite, and, in consequence, have overfilled the stomach.

We remember seeing a very clever professor of anatomy once demonstrating to his class rupture of the valve in a man who had been hanged. He found an opening just "*the size of a pin hole,*" but not a few of the class saw how the pin hole was made. In fact, the point of the pin entered, by force, but the head refused to pass.—*Tr.*

* We presume the author here means the chronic disease preceding perforating ulcer.—*Tr.*

Typhus, as has been already observed, leads to insanity, from the blood poverty which it induces.

Dysentery does not occur in good asylums for the insane more frequently than in other institutions for the sick, and we have repeatedly had opportunities of making convincing observations on the concurrent manifestation of such epidemics, in the Hessian General Hospitals, and insane asylums.

Intestinal tuberculosis is, as tuberculosis in general, common in the insane. Our own observations do not confirm those made by others, on the contractions of the colon.*

5TH. DISEASES OF THE URINO-GENITAL ORGANS. — A thorough investigation of the relation between *uramia* and insanity would be of great value, especially if the attention of physicians in large asylums were bestowed upon the subject, on which some light might be thrown by a sufficient amount of pathologico-chemical observations.

Renal diseases, of all sorts, may counteract the functional integrity of the brain, through their direct influence on the constitution of the blood mass, (dropsy, anæmia, etc.,) and thus lead to insanity. Indeed, I have

* The brevity with which the author disposes of this important subject, as well as the various other abnormities of the abdominal and pelvic viscera, does not indicate that he has bestowed very close attention on this department of pathological anatomy. He stands, in this respect, in striking contrast with Schroeder van der Kolk, whose observations on the pathological condition of the colon, clearly show he was an accurate observer, and that he placed a due value on *extra cerebral* lesions. Leidesdorf, on the contrary, appears to have given his attention almost exclusively to the brain. *Reflex*, or *sympathetic* insanity would seem to have been but little thought of by him.—*Tr.*

a distinct remembrance of cases in which the insanity appeared actually to be linked with the renal disorder. However important may be the influence of sexual disorders on the functions of the brain, the results of pathological anatomy, in this relation, are uncommonly meagre.

Habitual hyperæmia and catarrh of the uterus, hyperæmia of the ovaries and tubes, polypi of the uterus, and the various enlargements of the uterus and the ovaries, are common morbid conditions in nymphomania, but they are no less common among the sane.

In defective development of the ovaries, which is mostly associated with the same condition of the uterus, mental disorders, which appeared at the age of puberty, have been too repeatedly observed.

The simultaneous occurrence of *puerperal mania* with puerperal disorder of the uterus, has not received sufficient attention, because this form of mania usually appears without any manifest disorder of the uterus, and in such cases, perhaps, only under predisposition to insanity, it is linked with the important changes in the female organism, which occur during the normal puerperal process.

6TH. SEPSIS—With metastasis in the most various organs, which so largely proves fatal to the insane, is developed during insanity, but usually not directly depending on it; it occurs in consequence of decubitus, especially in the paralytic. All sorts of morbid processes, conjoined with putrefaction, underlie it.

7TH. SANGUINEOUS EAR TUMORS—OTHAMATOM. — The last affection to be noticed is that above mentioned, which has also improperly been named auricular erysipelas. This disease consists in a separation of the peri-

chondrium from the cartilage of the ear, in consequence of effusion of blood between them, so that the cartilage constitutes the posterior, and the perichondrium the anterior covering of the swelling, the whole of which is outwardly invested by the skin of the ear. The cartilage is partially destroyed, and the morbid process, under formation of a colored texture, heals, leaving behind more or less shrivelling and deformity of the concha.

Sanguineous ear tumor has been observed almost exclusively among the insane, and chiefly in the fatuous and paralytic, but cases have been met with among the sane. It has been believed that it occurs only in the incurable insane, but this view has been set aside by undoubted facts, and there seems now to be a unity of opinion, as to this swelling owing its existence to traumatic causes, whether from bruises and injuries inflicted by the patients themselves, or by others. In connection with this, I remember that places are mentioned, (Stahl, page 488,) where the belief obtained that obstinate lunatics might be broken in and directed by laying hold of their ears. Wherever patients are well looked after and cared for, the ear tumor is met with but very rarely. In the Vienna Asylum, lodging 700 patients, not a case has occurred in the past six years.

THE WILLARD ASYLUM, AND PROVISION FOR THE INSANE.

By an Act of the New York Legislature, passed on the 30th day of April, 1864, the Secretary of the State Medical Society was authorized to investigate the condition of the insane poor in the various poor-houses, alms-houses, insane asylums, and other institutions, where the insane poor are kept, not including, however, such institutions as are now required by law to report to the Legislature of the State.

The law directed the Secretary to arrange a series of questions,* such as in his judgment would be likely to

* The following questions were sent to each county judge:

What is the population of your county house? How many insane are there at present provided for? How many males are capable of labor? How many females are capable of labor? How many males perform out of door work? How many females perform out of door work? What amusement have those who are unable to work? What amusement have females who are unable to work? What number are destructive and tear off their clothing? How many are restrained by chains or hand-cuffs occasionally? How many constantly? What other forms of mechanical restraints are used? What other means are resorted to for controlling and managing the violent insane? Has the poor-house a full supply of water? How many bath tubs are there in it? How often are the insane required to bathe? Is each insane washed, hands and face, daily? Is any arrangement made for cleanliness, ventilation and uniformity of heat in winter? Are any insane confined in basement cells? Are any so confined without the privilege of coming daily into the open air?

Is the building in which the insane are confined of wood or brick? How many stories? What is the height of each story? What is the length and width of each room? What is the size of each window? Are there any rooms without a window opening out of doors?

elicit the greatest amount of information on this subject,

What are the floors made of? Are any of the basement rooms without a floor?

Have you bedsteads in all the rooms? Are the bedsteads of wood or iron? Are they fastened to the floor? Have you double or single beds? How many sleep in one bed? What is the greatest number, in any case, who sleep in one bed? What material do you use for bedding? How many sleep on straw alone, without bedsteads or beds? How often is the straw changed?

What is the diet provided each day? How is it distributed to each? How is the building heated in winter? Are all the rooms heated? Is attention paid to the uniformity of heat by a thermometer? What is the temperature maintained? Are any insane confined in rooms without heat, in the winter?

Are there any accommodations for the various grades of insane? If so, what? Are they all confined in one ward? How many in single rooms or cells? Are the sexes kept entirely separated? Are male attendants employed to care for female insane? Are any attendants beside paupers uniformly and constantly employed in the immediate care of the insane?

What is the actual condition of the rooms and cells occupied by insane, as to cleanliness? What do you think of the atmosphere of the rooms? Did you look for vermin on their persons? Did you observe any? Are any of the pauper insane cared for in private families? Does your county take care of recent cases? What changes of under garments have each of the insane? How many have shoes? How many had neither shoes nor stockings during the winter?

What number of insane is your county house designed to accommodate? What is the greatest number ever there confined? Are the accommodations separate from those of the sane paupers? How many escaped within a year who were not returned? How many were removed by their friends? What provisions are made for medical treatment of the insane? How often are they actually visited? Does each case receive care with reference to its ultimate recovery.

Number; name; age; sex; native; foreign; year of admission; occupation; mild; excitable or paroxysmal; violent; filthy; destructive; confined to house; confined in strong rooms; requires mechanical restraint; been treated in an asylum; died during the year; discharged.

procure them printed, and transmit them to each county judge in the State. It directed the county judge, on the reception thereof, to appoint a competent physician,* a resident of the county, to visit the county poor-house, or institution where the insane poor are kept, and to examine into the condition and treatment of the insane inmates, and to transmit the result of the investigation to the Secretary, who was thereupon directed to condense the information so received and report the same to the Legislature.

*The direction to the physician appointed by the county judge was as follows:

MEDICAL SOCIETY OF THE STATE OF NEW YORK,
ALBANY, N. Y., May 23, 1864.

Dr. ————:

SIR:—In obedience to the appointment made by the judge of your county, in accordance with chapter 418, Session Laws 1864, a copy of which you will find herewith, you are requested at an early day to visit your county poor-house, alms-house or asylum, and make the investigations as indicated in the blanks inclosed. You are requested to give the overseer or superintendent no notice of your appointment or the time of your visit, and upon your arrival to enter at once upon the duties assigned to you. The object is to see every insane inmate, and all the surroundings precisely as they exist in the every day condition of the institution, to discover the evils which exist in the management of the insane poor, and by this well directed effort so to bring them to light as to incite a wise and generous legislation in respect to them, with such actual provision for this unfortunate class of our fellow beings as is in accordance with the teachings of science, and the dictates of an enlightened humanity.

Your services will be a claim upon your county, to be audited by your Board of Supervisors on the voucher of the county judge.

You can retain one set of the blanks for your own personal use, one for the use of the county judge, one for your board of supervisors, and return the remaining two to me, on or before the time specified in section 2d.

Very respectfully yours,

S. D. WILLARD, M. D., *Secretary.*

Dr. Willard, the Secretary of the Medical Society, entered at once upon the service assigned him, and the following January his report was presented to the Legislature. This document bears ample testimony to the earnestness, fidelity, and zeal with which the author executed the duties of his commission; and although he died, prematurely and lamented, before the passage of the law creating a new institution for the insane, a grateful commonwealth has perpetuated his memory and name in the WILLARD Asylum for the Insane.

The leading features of the law, passed by the last Legislature, authorizing the establishment of a State Asylum for the chronic insane, and for the better care of the insane poor, are as follows:

It provides for the appointment, by the Governor, of three Commissioners to select, contract for, and purchase a suitable site for the building,—said site to be first sought for in any property owned by the State, or upon which it has a lien; the construction, by the Commissioners, of suitable asylum buildings, or the modification of buildings already erected and not occupied for other State purposes; the appointment by the Governor of seven trustees, who shall have power to appoint a medical superintendent, one assistant physician, a steward and a matron, and adopt the necessary by-laws for the government of the asylum, and fix the rate per week, not exceeding two dollars, for the board of patients, and, with the approbation of the Governor, designate the counties from which the chronic pauper insane shall be sent to the said asylum.

The chronic pauper insane from the poor-houses of the counties thus designated, shall be sent to the said asylum by the county superintendents of the poor, and

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The chronic pauper insane from the poor-houses of the counties thus designated, shall be sent to the said asylum by the county superintendents of the poor, and

all chronic insane pauper patients who may be discharged, not recovered, from the State Lunatic Asylum at Utica, and who continue a public charge, shall be sent to the asylum for the insane hereby created.

The county judges and superintendents of the poor in every county of the State, except those counties having asylums for the insane, to which they are now authorized to send such insane patients by special legislative enactments, are hereby required to send all indigent or pauper insane coming under their jurisdiction, who shall have been insane less than one year, to the State Lunatic Asylum at Utica.

Seventy-five thousand dollars are hereby appropriated for the purpose of carrying into execution the provisions of this act.

The asylum hereby created shall be known as the Willard Asylum for the Insane.

We have recapitulated the leading features of the law,* that our readers may note in what respects it fails to meet the question of proper provision for the insane. Its insufficiency to this end will be better understood if we consider the nature and extent of the requirements in their medical and economical relations.

It is not our purpose to discuss the causes of insanity. The fact is well established that mental disease increases *pari passu* with increase of population, and, unless checked by prompt medical intervention, its prevailing tendency is to permanent irrecoverable alienation of mind. On the other hand, insanity, in its early stage, responds so favorably to medical treatment that, as shown by hospital statistics, from 70 to 80 per cent. recover. With this knowledge, it needs no argument

* The law is given in full in the Journal for July, 1865, page 127.

to prove that the treatment of acute insanity should take precedence of all other considerations; for thus, and thus only, can the State be relieved of the burden of chronicity. By such provision, instead of the insane life-long consumer, an affliction to himself, his friends, and society, a producing constituent is restored to the body politic, a comforter and supporter to his family, and an active citizen or christian to the sphere of his former usefulness. Thus we strike at the root of the evil in all its relations, social, sanitary and financial.

An inquiry into the conditions essential to the attainment of a result so desirable suggests the following considerations:

The usefulness of an asylum or hospital for the insane is in a great degree dependent upon its proximity to those who require its care. The greater its facility of access, the less delay there is in placing patients under treatment. The community learn to appreciate the character and merits of an institution in their midst, and are quick to avail themselves of its advantages; and thus the hospital becomes a curative centre for the region around it.* On the other hand, many cases of insanity, favorable at the outset, lapse into chronicity from the distrust of friends in placing a relative in a distant asylum, of the management of which they know nothing, or against which vague rumor may have prejudiced their minds, or from dread of the expense, hardship and exposure attending a long journey, or from fear of being unable to reach the object of their solicitude in the day of sickness, or be present at the hour of his death.

*We have the authority of Dr. Jarvis for stating that this result has uniformly followed upon the establishment of new asylums in the State of Massachusetts.

In some forms of mental disease, the question of proximity is a question upon the answer of which depends the life or death of the patient. In cases of melancholia and acute mania of rapid exhaustive or typhoid character, the fatigue and exposure consequent upon transportation over long and sometimes difficult routes of travel, will often induce a supplementary prostration, from which the patient never rallies. Frequently has this fact been painfully illustrated in the Asylum at Utica. Indeed, even as we write, (September 4,) a poor woman is dying, who was admitted on the 2d instant in a state of great exhaustion after a tedious land journey, and her death will be justly attributed to this superadded cause of depression. It is unnecessary to point out how all these circumstances are aggravated during the inclement seasons, or in winter, when the routes of travel are blocked up and impeded by snow and ice.

Another argument favoring propinquity may be sought in the difficulties and risks of conveying the violent, fractious or suicidal maniac from distant or inaccessible sections of the State. For the security of one such person, it is no uncommon circumstance for several attendants to accompany him to the asylum, thus entailing an expense of travel which is sometimes equal to the charge for maintenance during the patient's entire period of hospital treatment.

These reasons in favor of proximity we believe to be irrefutable, and to be fully sustained by the opinions of those most conversant with the subject. That clause of the law, therefore, which makes the Asylum at Utica the only State institution for the reception of acute cases

of insanity, simply perpetuates the evils complained of.*

But there are other arguments, and these of a professional character, against constituting the Asylum at Utica an institution for the reception of acute cases solely. To render these intelligible to the general reader a brief sketch of the existing internal economy and requisitions of the Asylum is indispensable.

The State Asylum at Utica contains a population of six hundred patients; the proportion between the two sexes being equal. The division of the sexes is complete. Each department, male and female, is under the immediate direction of its respective medical officer; while the Superintendent's obligations comprise the oversight of both sections, together with various secular duties of administration connected with the house, the farm, the shops and the finances. In addition to these he is often summoned to attend the courts as a witness in cases involving mental incompetency.

In this, and in all similar institutions, in addition to medical resources, there enters an element of great influence in the management of the insane; we refer to what is termed "moral treatment." Although in strict medical acceptation, the latter is not of primary importance, it is, nevertheless, an indispensable coëfficient in the attainment of therapeutic effects. Of moral treatment the classification of patients, as practiced in hospitals for the insane, is acknowledged to form the principal constituent. This classification consists mainly in the

*A north and south line projected through Herkimer county divides the State into two equal geographical segments—the western section containing, according to the census of 1860, a population, in round numbers, of one and a half millions, while the eastern section has two and a half millions.

allotment or gradation of patients according with their mental condition. Insanity is not a malady of the thinking faculty, pure and simple; its manifestations are solely due to physical disorder, and it possesses the same tendencies to recovery or further deterioration which characterize other forms of bodily disease. To meet these various changes, therefore, new classifications are required, and for this purpose all the subdivisions of a department are brought into play. Moreover, this complex analysis and collocation admits but one controlling mind for the department.

And here the thought occurs, very naturally, that one attending physician is inadequate to the discharge of duties so onerous. How can one medical officer, however capable and conscientious, acquire that intimate knowledge of the various and varying mental and physical symptoms of three hundred patients, which is essential to the proper management of each individual case? How can he daily examine and prescribe for them, and at the same time keep full clinical records of each, from its reception to its discharge; conduct the voluminous correspondence with the friends of patients, and attend to the multifarious minor affairs connected with his office? Let us suppose that the attending physician devotes three minutes to each patient, and on this basis of calculation fifteen hours will be necessary to make one visit through his department. It may be urged that every patient does not require so long a visit as three minutes; that for some a glance may suffice. This is, to some extent true; but, on the other hand, in many a longer interview is demanded, and the law of the State, as well as that of necessity, makes a daily visit to each patient obligatory. Thirty per centum would be an approximate

estimate for the acute or recent cases under treatment at Utica. These "favorable" cases receive the greater share of the physician's solicitude and care. Of the remainder, belonging to the class of chronic insane, perhaps twenty per cent. may be under treatment, but for all frequent medical inspection is necessary.

We must frankly admit that under the existing organization, physicians to asylums cannot devote so large a proportion of their time as that above specified to personal association with their patients, neither should it be demanded of them. It is well known that among the various descriptions of medical practice, none is so exhausting to mind and body as attendance upon the insane. In England it has been demonstrated by experience that medical officers break down after fifteen or twenty years of asylum life, and there is in that country, we believe, an annuity fund for this disabled class.

Having thus shown by the numerical method that the proper performance of the medical office, under the present system, is so difficult, the inference is obvious: hurried and routine practice must, to a large extent, usurp the careful and deliberate examination which is the sacred and inalienable right of each individual case; and thus, by rendering it impossible for the medical staff to perform the duties required of them, the provision of the law making the Utica Asylum the sole State institution for the reception of all acute cases will but aggravate existing evils, and prove prejudicial to the interests of that class of the insane.

The law not only constitutes the asylum at Utica the sole State institution for acute cases, but it ordains the Willard Asylum as the only State receptacle for chronic insane paupers. For the chronic, as well as for the acute

insane; for the poor, no less than for the rich, proper provision and treatment must include every application suggested by art and experience by which recovery may be promoted or suffering alleviated. There is a popular, and, in some instances, we fear, a professional error, which regards custodial provision as the end of treatment with the chronic insane. Such a presumption in the case of other chronic maladies would be deemed preposterous. In the chronic as well as in the acute forms of insanity, the employment of active medication proves most advantageous. A distinguished psychopathist, well known both for his learning and his humane efforts in behalf of the insane, writing upon the therapeutics of insanity, remarks: "It is acknowledged that in acute bodily diseases the most active and powerful means must be employed, whereas, in psychopathy, when there is *high nervous excitement*, it is advisable *to abstain from active medication*. In mild bodily maladies, mild means may be resorted to; *in similar states of mental disease, the psychopathist must often bring on the field his pharmaceutical reserve.* Dementia, for instance frequently requires alteratives, tonics and stimulants." The same writer says: "We believe it is a great error to say that chronic cases and those of dementia should be abandoned to the efforts of nature. It is true that she cures exceptionally in these cases, but not generally, else there would be fewer incurables." Thus it appears that the treatment of chronic mental disease is the peculiar province of medical science, and that its successful practice demands the highest qualities of the physician and the widest range of the materia medica. The occult conditions of disease are to be investigated; recurrent paroxysms of maniacal excitement are to be warded off or subdued;

and sleeplessness, the frequent derangements of the primæ viæ, anæmia and debility, and various intercurrent maladies brought under appropriate treatment. To this end tonics, alteratives and stimulants, cathartics and anodynes must, in turn, be resorted to, according to the particular requirements of each case.

Hardly second in importance to the medical is the dietetic treatment of the insane. No fact is better understood by the medical profession than that diseases of the present epoch are asthenic in character, *i. e.*, that they tend to debility. Especially is this true of the neuroses, (the affections having their seat in the nervous system,) of which insanity is the culminating expression. Insanity is, preëminently, a disease of depression of the vital forces, of debility, and of defective nutrition; and the dietary of this asylum is based upon the knowledge that the insane require food more highly nutritious and in larger allowance and greater variety than is essential in other forms of bodily disease. Where these conditions are neglected the insane become irritable, morose, obstinate, destructive; intercurrent maladies are frequent, and paroxysms of excitement recur oftener and are of longer duration.* In England, when the insane poor

* The insane cannot live on low diet, and while they continue to exist their lives are rendered wretched by it, owing to the irritability which accompanies mental disease. The assimilating functions in chronic insanity are sluggish and imperfect, and a dietary upon which sane people would retain good health becomes in them the fruitful source of dysentery and other forms of fatal disease. Pinel has left an instructive lesson upon the fatal results of the parsimony which existed in the Bicêtre in the year four. The diet in the Bicêtre, under the Constituent Assembly, was fixed at a kilogramme of bread daily. In the fourth year of the Republic, it was reduced to seven hectogrammes and a half. "And," says Pinel, "I have seen many

were under the surveillance of poor-law commissioners, and subjected to the poor-house regimen and policy, they became so irritable, violent and destructive, that the simple matter of damage alone far outweighed the additional expense of a generous dietary. We doubt not that the receptacles for the insane attached to the poor-houses of this State would bear testimony to a similar experience.

Asylums for the insane require not only a wider range of medical and moral treatment and a more liberal dietary than hospitals for general diseases, but they call for a peculiar style of architecture, possessing, at the same time, sufficient strength of construction to resist the efforts of the violent, and those facilities for light, ventilation and comfort which are the essentials of a sana-

convalescent patients relapse into a state of fury, crying that they were dying of hunger. The sad progress of misery was still more marked in its subsequent effects. In two months the number of deaths in the asylum was twenty-nine; while in the whole year two, it was only twenty-seven. In the Salpetrière, the consequences were still more deplorable; a mortality of fifty-six having occurred in that hospital in the winter of the year four, from dysentery, brought on by insufficient diet."

In Dr. Thurnam's work on the statistics of the insane, page 95, is the following valuable testimony as to the effects of diet upon the insane:

"The seven asylums may be fairly divided into two groups, in one of which the diet is, or was at the time to which the table refers, considerably above, and in the other considerably below, the average diet of the county asylums as a class. The difference in the amount of the diet in the two groups, is in the first group, as regards solid food, the diet was 50 per cent. better than that in the second. In the relative amount of solid food, considered separately, the difference amounted to 130 per cent. In the three asylums with the more liberal diet, we find that the recoveries averaged 43.7 per cent., and that the mean mortality was 9.35 per cent.; whilst in the four institutions, in which

torium. From the low vital energy and sluggish circulation of the insane, and their propensities to denudation, (the result of restlessness or delusion,) a high state of temperature must be constantly maintained in the wards. The contaminations arising from vitiated pungent secretions and from filthy patients in large aggregations, must be dissipated by artificial means of ventilation. The damages to clothing or furniture occasioned by destructive or excited patients need constant reparation. Trained attendants are demanded in a larger ratio than the claims of ordinary diseases make necessary. Means of diversion, useful occupations and amusements must be provided. The latter, although they act indirectly, are among the most important remedial agents in the treatment of the insane.

That these requirements involve a heavy expenditure in the maintenance of the insane cannot be denied. But in discussing questions of economy, it is important to

the diet was less liberal and nutritious, the recoveries only averaged 36.75 per cent., and the mean mortality was as high as 14.54 per cent."

A more recent example is afforded in the Thirty-ninth Report of the Stafford Lunatic Asylum, just published. The Commissioners in Lunacy, who visited this asylum last year, report that an epidemic of the mucus membrane of the bowels had prevailed, which had proved fatal in twelve cases. They attributed much of this illness to the low state of the health of the inmates, and the poor and insipid soup which formed the dietary on three days of the week. They recommended meat to be substituted for this broth. In the report of the Visitors, signed by their Chairman, the Earl of Talbot, it is stated: "Acting upon the recommendation of the Commissioners in Lunacy, and well aware of the exhausting nature of insanity, we have increased the dietary scale; and the amount of animal food now supplied weekly, namely, thirty ounces of meat cooked, and free from bone, has proved of service in maintaining the health of the patients." —*Dr. Bucknill, Journal of Mental Science, Vol. IV., page* 470.

distinguish between a wise, judicious liberality which secures and a vicious parsimony which defeats the object to be attained. The first effort of the State should be directed towards the cure of its insane, and for this purpose every asylum should possess the necessary prerequisites. The magnitude of the returns, both financial and curative, to the community by institutions thus endowed, are set forth by the Trustees of the Massachusetts Hospital, at Worcester, in the following retrospect of their operations during thirty years:

The hospital has received into its wards, and taken the care of, six thousand six hundred and sixty-three insane persons. Of these, it has given three thousand one hundred and thirty-one back to their homes and the world, to usefulness and the common enjoyments of their families, society, and to the usual responsibilities of citizenship.

Of the thirty-five hundred and thirty-two who were not restored to health, twelve hundred have been improved, their violence has been subdued, their excitability calmed, their pains assuaged, and their delusions controlled, in such a measure, that they could live at their homes, be comfortable in their families and neighborhoods, and partake of some, or even many, of the blessings of society. * * *

According to the life-tables, these three thousand one hundred and thirty-one men and women lived or will live an aggregate of 84,886 years after they regained their health, and 82,090 of these were working and self-sustaining years, before they arrived at the period of dependence in old age. Making, however, some deduction for those that would have recovered by other means if the hospital had not existed, and also for the periodical cases whose years of health were cut off by every succeeding attack, yet both of these deductions will not materially diminish the total sum of 84,886 years of usefulness and enjoyment and the 82,090 years of labor and self-sustenance, that have been given back to these patients, and through them to society and to the Commonwealth, by the labors and influence of the hospital.

It must be farther considered, that insanity, if not removed, is a life-long enduring disease, and although, with its causes and conditions, it shortens human life, it does not destroy men at once. Mr.

Le Cappelain, of London, calculated the value of life to the permanently insane at the several ages. Taking his tables and the common tables of the expectation of life of the sane, it is easy to see the comparative chances of living in mental health and mental disorder.

Expectation or probable Duration of Life.

AGE.	SANE.	INSANE.		
		Males.	Females.	Average both Sexes.
20, ...	36.32	21.31	28.66	24.99
30, ...	34.54	20.64	26.33	23.46
40, ...	30.48	17.65	21.53	19.59
50, ...	24.89	13.53	17.67	15.60
60, ...	18.77	11.91	12.51	12.21

At these rates, the three thousand one hundred and thirty-one who were restored, would have lived 54,911 years, if their malady had not been removed, through all of which the State, towns and people must have cared for and supported them.

The hospital then has done this double work. It has taken away a burden and given back a support. It has cut off these 54,911 years of insanity, which were or would have been a heavy tax upon the sympathies and a draft upon the resources of the community, and given back in their stead, as many and fifty per cent. more years of aid and labor to the body politic, and the cost of this great boon to the Commonwealth has been merely the expense of supporting and caring for these three thousand one hundred and thirty-one, through an average of somewhat less than six months for each one.

There is, perhaps, no subject connected with provision for the insane, upon which the verdict of the profession has been more unanimous than their condemnation of asylums for incurables. If, as we have said, the chief source of chronic lunacy is the want of asylums for cure, it is obvious that we but palliate the evil by establishing institutions for the so-called incurable. We build "great resevoirs of lunacy and solicit the stream of lunatics to flow into them. We find, after twenty year that ours, resevoirs, new and old, are full to over-

flowing, but that there is no sign of abatement in the flow of the stream of lunacy."

The objections heretofore urged against the too great expansion of asylums apply with special force to vast establishments for the incurable. "The community becomes unwieldy, the cares are beyond the capacities of the medical officers as respects treatment, recent cases are lost sight of in the mass, the patients are treated in groups and classes, an unhealthy moral atmosphere is created—a sort of mental epidemic induced where delusion and debility and extravagance are propagated from individual to individual, and the intellect is dwarfed and enfeebled by monotony, routine and subjection." And when to these evils we superadd the double stigma of "*pauperism*" and "*incurability*," all hope is extinguished in the breast of the patient, his self-respect is impaired, and his irretrievable degeneration secured. Truly over the gateway to such institutions should Dante's inscription to the portals of hell be written:

"All hope abandon—ye who enter here!"

All are aware of the powerful influence of hope in recovery from disease, and the disastrous consequences of its opposite, despair. In no class of maladies are the beneficial effects of desire joined to the expectation of recovery more manifest than in insanity. Deprived of "auspicious Hope," branded with "*incurability*"* under the two-fold burden of disease and despair, the sufferer from chronic lunacy drags through his miserable life.

* The medical solecism of pronouncing any patient incurable, we deem hardly worthy of notice; for, as the eminent Dr. Kirkbride remarks, this is a condition which can be predicated by Omniscience alone.

And as if this were not enough we affix the stigma—for so it is regarded by our people, of *pauperism*, forgetting the fact that, generally, pauperism is the effect and not the cause of insanity. Pauperism, the result of vagrancy and vice, finds few representatives among the insane. The great majority of patients in asylums come from the industrial, producing classes. In various spheres of usefulness they have contributed their proportion to the prosperity and advancement of the State. Rendered unserviceable by no fault of their own, stricken in God's providence by disease, they are not paupers in the true sense of the word, but their cure and maintenance is the payment of a debt due from society.

There is another objection against the establishment of institutions for pauper incurables. From natural affection, as well as to avoid the implied disgrace of being on the roll of pauper lunatics, patients would be removed from such institutions and provided for in their respective families. There is no legal enactment to forbid such a procedure, nor, from the nature of the case, can there be. The farmer or mechanic in moderate circumstances, whose whole time is necessarily occupied in the support of his family, is unable to watch his insane wife, son or daughter. The lunatic inmate of the family may have a propensity to roam, or to suicide, or homicide, or to violence and destruction, or be negligent and filthy in his habits. To promote the comfort and security of the domestic circle, some attic room or outbuilding is made secure and dark for the permanent abode of the unhappy wretch, and chains, cages and cruelty eventually usurp the place of that tender care which it is the object of the law to realize. Or, in accordance with the law of sympathy, so potent in its operations on our nature, other

members of the family become deranged by constant intercourse with the insane, and thus augment the statistics of disease; or the family itself, by the additional burden and expense of its insane inmate, is dragged down into pauperism, and then instead of one member to support, the county becomes the almoner to a demoralized, impoverished family. Thus the law, by elements inherent to itself, defeats its own benevolent intentions.

Having thus briefly noticed some of the principles involved in the proper management of the insane, and their incompatibility with the provisions of the law, the question naturally arises, how can these incongruities be overcome and the administration of the insane rendered conformable alike to the demands of science, humanity and economy. Various European methods, evolved during the last decade, for the solution of this problem —the public asylum system, agricultural lunatic colonies, the familial or free-air and family-life system, all have their advocates and opponents, their advantages and objections. How far a wise eclecticism might combine the meritorious features of these different methods into one harmonious design, experience alone can determine.

But however this may be, the first requisite of the State is additional hospital accommodation. The State should be apportioned into three sections equal in population, and the insane of the central section sent to Utica. Two hospitals for the treatment of acute, paroxysmal or violent cases, should be built—one in the eastern and one in the western section, whose sole architectural requirement should be perfect adaptability to the wants of hospital practice. Separate buildings, less expensive and of simpler construction than the hospital, and disconnected with it, should be provided for the quiet, the

filthy dements and paralytics. Buildings of a suitable form should also be erected for the treatment of epileptics. Each hospital should have a farm attached to it, of from three to five hundred acres—to the cultivation of which the labor of patients should be particularly directed, both from economical considerations* and the medical benefits to the insane of out-door life and occupation. Upon the farm there should be cottages for the employés engaged in the various agricultural and industrial departments of the institution. With these employés the orderly, industrious chronic or the convalescent acute patient might reside. Such an arrangement would permit a certain degree of family-life and a larger liberty to this class than are compatible with the organization of the hospital proper. It might be found practicable, after due consideration, to withdraw a certain proportion of patients from the hospital and domicil them in cottages which could, in great measure, be constructed at small expense by the labor of patients themselves. That some classes of the insane may be thus provided for, with advantage to themselves and at comparatively small outlay, has been fully demonstrated in asylums in England and on the continent. It should, however, be remembered that, in the judgment of those European physicians who have had most practical experience and whose medical and administrative capacities are of the

*A very mistaken view prevails as to the productiveness of work performed by the insane. Some of the best authorities estimate the labor of three insane men as equivalent to that of one sane person; while others place the ratio as high as five to one. On this basis of calculation, bearing in mind also that the insane are suffering from bodily disease, and that there is, in reality, no such condition with them as "robust bodily health," the absurdity as well the cruelty of any attempt to make the insane self-supporting, becomes apparent.

highest order, although this arrangement is attended by the happiest results in certain instances, it has thus far been found applicable to a relatively small proportion only of the insane. Still, as an appendage to the hospital, it would add greatly to the facilities of classification. Its capability of extension, so as to embrace any very large number of patients, observation and experiment can alone determine.

We have alluded to the healthful occupations of the farm as an adjuvant to medical treatment and a source of income to the institution. To the majority of male patients, however, tillage of the soil would prove too exhausting; moreover, for several months in the year the labors of the husbandman are suspended. Other means of employment, therefore, must be provided, and work-shops instituted in which some of the simpler trades may be carried on and articles manufactured. It is unnecessary further to specify the details of such an institution as that here proposed.

The main object of this paper has been to call the attention of the general public to some of the fundamental principles upon which proper provision for the insane is based, and to show, inferentially, that the law fails to meet the necessities of the State. Having full confidence in the wishom of our law-givers, and the benevolent spirit of our people, our reflections are dictated by no desire to cavil, but from the belief that a knowledge of the facts here presented is essential to wise and comprehensive legislative action.

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It is two years since the final number of the *Journal of Psychological Medicine* was published, and the entire field of periodical literature represented by our own journal in this country left, in Great Britain, to the *Journal of Mental Science.* This journal, under the very able editorship of Dr. Bucknill always ranking among the first of its class, now comes to us enlarged and increased in value to meet its greater responsibilities, and we doubt not its greater patronage. Its old form and appearance are mainly preserved, and we shall now, by a brief abstract of its contents for the year up to the present time, enable our readers to judge of its intrinsic qualities under the new management.

The opening article is by Dr. Robertson, "*On the Several Means of Providing for the Yearly Increase of Pauper Lunatics,*" and is very able and interesting.

"The number of lunatics under care and treatment in the public asylums of England and Wales continues yearly to increase. On the 1st of January, 1849, there were 7,629 patients in the public asylums. On the 1st of January, 1854, this number rose to 14,575; on the 1st of January, 1859, to 17,836; and on the 1st of January, 1864, to 23,830."

The decennial period, 1854-63, a fairer basis for comparison, shows a less, though still a large, rate of increase. This increase at the present time may be stated, in round numbers, at 1,000 yearly, on a mean population of 22,807—the yearly admissions being 7,000, the discharges 3,800, and the deaths 2,200. But the Commissioners in Lunacy, after a careful study of the subject, have arrived at the conclusion that these numbers must still continue to increase with each succeeding year. What, then, are the available means for providing for this yearly increasing number of pauper lunatics? Dr. R. describes them as: 1. Licensed lunatic wards in work-houses. 2. Single patients; the insane in private dwellings. 3. Agricultural lunatic colonies. 4. Extension of the public asylum system, by the enlargement of existing buildings, by the erection of detached blocks, and also of asylum cottages on the county asylum estate.

The number of lunatics in work-houses is steadily increasing. In 1857 there were 6,800; in 1861, 8,803; and in 1863, 9,710 lunatics and idiots confined in an irregular and very unsatisfactory condition in the union-houses of England and Wales. What this condition, described as "irregular and very unsatisfactory," really is, we may find exemplified in our own poor-houses; and the same arguments which have been so often reiterated in this journal against the association and treatment of insane patients with paupers, are cited at length by Dr. Robertson from the Lunacy Commissioners' Report, and from an article by Dr. Bucknill in the *Journal of Mental Science* for May, 1865. Nor have recent legislative enactments, directed towards improving the condition of the insane poor in work-houses, been of much avail.

There is, as Dr. R. well says, "an inherent unfitness of the guardians of the poor, or their medical officers, to deal wisely or well in the care of the insane."

"On January 1st, 1864, there were in England and Wales 1,018 pauper lunatics (including idiots,) boarding in private dwellings, and 5,523 living with relatives, who were in receipt of relief from the parish as payment for their maintenance; making a total of 6,541 insane paupers lodging in private dwellings."

Of 38,000, the whole number of pauper idiots and lunatics in England and Wales, 56 per cent. are in asylums, 26 per cent. in work-houses, and 18 per cent. are boarded out as single patients. In Scotland, 68 per cent. of the same class—the total number of which was 5,283 on the 1st of January, 1863—were in asylums, and 32 per cent. as single patients in private houses.

In England, the insane poor in private dwellings are visited quarterly and reported on by the union surgeon, but not much is thus added to the little or nothing known of them. Their condition is very unsatisfactory, and in almost every one of the annual reports of the Commissioners, cases of neglect and ill treatment are recorded. Dr. R. knows of no remedy for the evil short of removing this class entirely from the charge of the guardians of the poor, and placing them under the control of the visiting justices of the county asylum. He says: "Our system as regards 56 per cent. of the insane poor is a triumph of science and humanity. The paupers in the county asylum are already cared for as the sick are not. The other 44 per cent. of the insane poor—of whom 26 per cent. are in work-houses and 18 per cent. in private dwellings—are, on the other hand, as the official reports of the Commissioners show, in a miserable plight."

The subject of agricultural colonies for the insane is dismissed with a few words. Dr. R. deems it "utterly impracticable—and if practicable, not very wise—to found such colonies in England."

But the public asylum system may be extended in three forms: 1. By the enlargement of the present buildings. 2. By the erection of detached blocks in the vicinity of the asylum. 3. By the erection of cottage asylums on the estate.

Dr. R. is by no means disposed to join in the disfavor with which large asylums on the usual plan are now generally regarded. Wherever the present buildings can be, by additions and alterations, increased at an expense of not more than $250 per bed, this should be done, to the limit, at least, of 1,000 patients. The obvious arguments in favor of large asylums—such as the better classification to be obtained, the advantage of purchasing supplies at wholesale, etc.,—are well stated, but we fear must yield before the general experience, which, in this country as well as in Europe, is decidedly adverse to these mammoth institutions.

The addition of detached blocks to the present asylums is favorably regarded. "They afford a bright, quiet home to the feeble and demented—removed as they are from the bustle and discipline of the main building."

So far as these blocks are merely new buildings added to the present asylums, and like them in every respect, they are, of course, only an extension of the present asylum system, at a greater cost of construction and operation than by the common mode of enlargement. But built as they may be, in a much simpler manner and at a far less cost than the parent asylum, there seems reason to believe they will afford a most practicable and

appropriate means of providing for a large class of the insane.

The cottage asylum system, on the other hand, essentially changes the condition of the patient. It returns him again to that family life from which disease had alienated him. A large hospital is erected for certain classes of patients, and surrounding or in connection with the hospital are small buildings for containing families, in which other classes of the insane live as members; all members of the community being equally under the direction of a central medical staff. "The cottage asylums thus stand midway," says Dr. R., "between the asylum wards and the private dwellings, and combine, to my judgment, the advantages of both."

"*Vital Statistics and Observations on the first Thousand Female Patients admitted into the Somerset County Lunatic Asylum*," is the title of a paper by R. Boyd, M. D., Edin., F. R. C. P. We learn that the results in one thousand female admissions are 38.8 per cent. recovered, 9.2 per cent. improved, 3.9 per cent. unimproved, 25.8 per cent. died, and 22.3 per cent. remaining under treatment. And this is about all, to which any rational interest can be attached, that we can gather from some two dozen pages. As to the number of these thousand whose tongues were clean or white, red, raw, loaded, furred, brown, flaccid, paralyzed or not stated, it does not seem to us of the slightest consequence to know. The frequency of the pulse in the thousand females when admitted varied, it appears, from 58 to 156 beats to the minute. Now twelve different classes of less variation may readily be made of these patients, and a certain number will belong to each. But why not thirteen different classes, or five hundred?

The truth is, a lunatic's pulse beating 100 to the minute at the time of his admission to a public asylum is a fact infinitely complex, and absolutely without value to the finite mind. If the instance be multiplied by one thousand, or one billion, the amount of our knowledge is still infinitessimal. And if we compare this fact with others, such as the sex, age, weight, civil condition, and facial expression of the patient, all is even then in vain. From nothing nothing comes. The paper of Dr. Boyd is the most elaborate burlesque of statistical forms that we have ever been called upon to peruse.

An article on "*English Patients in Foreign Asylums*," has for its theme the late removal of a Roman Catholic *religieuse*, suffering under acute mania, from England to an asylum at Bruges, Belgium. There seems to have been no reason to suppose, at any time, either that the girl was not insane, or that she was removed from improper motives. All the sensation articles in the newspapers, the correspondence of the Protestant Alliance with the Home and Foreign Offices, and numerous other symptoms of public anxiety, had their real origin in that distrust of Popery which is little less fixed in the British mind now than in the days of Titus Oates and Dangerfield. It appears, however, that the removal of insane patients abroad is illegal, and Sir George Grey has intimated to the lady superintendent of the hospital from which the patient was sent, that although he does not propose to institute legal proceedings in the present instance, it is his duty to warn her not to do so any more.

A series of "*Clinical Notes on Chronic Hydrocephalus in the Adult*," is contributed by Samuel Wilks, M. D., London, Assistant Physician to Grey's Hospital. "They are published," he says, "principally to elicit from those

having a large experience in the treatment of mental disorders, the frequency of chronic hydrocephalus as a cause of permanent weakness of mind and body." The cases referred to by Dr. Wilks are chiefly of interest in a medico-legal point of view. A man aged fifty, of feeble intellect, and who had been hydrocephalic from childhood, died comatose at the end of fourteen hours during which that condition had gradually developed from a state of stupidity. On post-mortem examination the body and brain were found healthy, but the ventricles of the latter were enormously distended with half a pint of fluid. The medical men at first declared this sufficient to account for the symptoms and death, but afterward hesitated in expressing a decided opinion to that effect. Their theory was, that some increase of the serum had suddenly occurred, and thus the apoplectic condition was produced. But Dr. W. believes that the death was chiefly due to the impairment of the brain substance, and not to the pressure of fluid alone. "Why death should at last ensue from a cause which has been so long persistent," he says, "creates a difficulty which occurs in many other chronic diseases. But with this condition of the brain, the powers of the body as well as the mind are very low, and a trifling cause may bring the whole machinery to a stop." Dr. W. illustrates his opinion, which seems to us a most sensible and valuable one, by three other cases, and closes by inviting the attention of medical men in charge of idiot and lunatic asylums to the subject.

"*Blood Cysts situated within the Arachnoid Cavity in cases of General Paralysis of the Insane*," is the title of a paper by John W. Ogle, M. D., etc. This clinical history of two cases in which the rare phenomena of cysts

containing blood within the arachnoid cavity was found after death, is of much interest. Calmeil notices five instances in which lesions of this kind were observed, in cases of what he terms diffuse chronic peri-encephalitis. The only other case which has come to the writer's notice is described in the "Grey's Hospital Catalogue," and was that of a general paralytic. Dr. Ogle supposes that such cysts would now be considered as generally the result of changes in blood extravasated, as the result of injury or otherwise, within the so-called cavity of the arachnoid. But he does not discuss their origin or nature in the present article.

Stanley Haynes, M. D., Assistant Physician to the Royal Edinburgh Asylum, contributes some cases from the records of that institution, which he terms "*Clinical Cases, illustrative of Moral Imbecility and Insanity.*" Nine of these are cases of females, varying from 17 to 28 years of age, and in all the mental disorder and defect were most strongly marked in the moral manifestations. All were exceedingly passionate, and at times violent and destructive. Some were especially given to lying, theft, profanity and obscenity; others threatened suicide and homicide. There was also that liability to sudden and extreme change in the feelings and behavior which we have all recognized as characteristic of this class. But it should seem that Dr. Haynes has not reported these cases with that care and discrimination which they deserve. We must suppose, of course, that the patients were all really insane, yet the data for such a conclusion are not clearly set forth. One, for instance, "was a notorious jail-bird, and a consummate impostor, deceiving gentlemen, inspectors of the poor, police officers, and others with false and carefully got up as well as plausibly told

stories of her life, etc." She could reason correctly, and when she attempted to control herself, could behave with perfect propriety. There is not a word, indeed, to indicate her insanity, unless it be the statement that "she showed a lamentable want of moral power." Some of the cases are, however, described as weak-minded, some as hysterical, others as masturbators, drunken, and diseased in body. So that, in fact, we have intellectual and physical as well as moral symptoms of insanity. All these are combined in the first case detailed, which, notwithstanding, is termed one of "pure moral congenital imbecility." In most of the five cases of male patients there is the same want of any evidence to warrant a verdict of insanity. The depravity is extreme, it is true, and apparently quite hopeless of remedy. But this is not uncommon with criminals, and every particular in the history of these patients may be paralleled in that of the common inmates of our prisons and reformatories. It seems to us that the chief aim in such cases, should be to describe the symptoms which are pathognomonic of insanity. We are aware that an exact idea of these can not always be conveyed in terms, but it ought not the less to be attempted.

That an important place is given to the review department in journals representing any specialty in science, we regard as no small sign of the vigor and ability of their management. A second edition of Bain "*On the Senses and Intellect*," having been published, Dr. Maudsley takes occasion to offer an extended criticism and analysis of that work. His general estimate of it nearly agrees with that of Herbert Spencer, who regards it as essentially tentative and transitional, and believes that the true method of the study of mind is, to follow out

its development in children and the animal creation. Dr. M. also thinks that observation of mental phenomena in the idiotic and insane, may furnish data for the establishment of true principles in psychology.

There is also noticed a work, by J. Barnard Davis, M. D., etc. and John Thurnam, M. D., etc. entitled, "*Crania Brittanica. Delineations and Descriptions of the skulls of the Aboriginal and Early Inhabitants of the British Islands, together with notices of their other Remains.*" The reviewer says:

> Such works reflect credit, not only on their authors, but also on their native country. The original conception of the work appears to have been borrowed from Prof. Morton's celebrated "Crania Americana." It does not consist in dry, anatomical details of structure, but the study of the crania is used to, as it were, resuscitate the races to which they belonged, and to bring before us the aboriginal and immigrant races of Great Britain and Ireland in connection with their whole physical conformation, their languages, arts, religion, and ethnological relations. Thus a considerable portion of the decade before us is taken up with a most able sketch of the historical ethnology of Britain, embracing an account of the mythology and religious rites of the Britons and other Celts, of their language and letters, etc., from the pen of Dr. Thurnam; and this chapter is followed by another, an "Ethnographical Sketch of the Successive Populations of the British Islands."

The number for April opens with a learned and excellent paper on "*The Physiology of Idiocy.*" To all who are interested in the subject of Idiocy, or in the study of mental phenomena in their simplest forms, this article will be found well worth an attentive perusal. There seems no good reason for hope that the study of any single case of idiocy will be fruitful of results. The wild boy of Hanover, and the *sauvage d'Aveyron*, from whose progress from a state of nature so much was hoped, yielded nothing as the reward of many years' patient

teaching and observation. But the hints toward general laws in mental development which an extended knowledge of idiocy must suggest may be of great value. Such appears to be the opinion of the writer of this article, and we again commend his very able contribution to the notice of our readers.

"*Neuropathy, or Vaso-Motor Therapeutics: a New Method of treating disease through the agency of the Nervous System*, is the title of essay by Dr. John Chapman, in which it is claimed that the mode of acting upon the circulation of the blood by cold and heat applied along the spine is the basis of an improved and almost exclusive system of medicine. The rationale of this new mode is as follows: Cold acting upon the sympathetic nerve-centres, lessens the nervous currents in the vaso-motor branches which emerge from them, thereby relaxing the arteries which these nerves supply, and enabling the blood to enter them in greater volume and with greater rapidity than before.

A converse effect is, of course, produced by the application of heat. The nervous current passes with increased power, the arteries are contracted, and the supply of blood to the part is lessened. Now admit the theory that upon the greater or less supply of blood to any given organ or region depends the activity or inactivity of its functions, and that it is the excessive slowness, rapidity or irregularity of these functions which constitutes disease, and the explanation is complete. Dr. Chapman details his experience of the new mode in several of the principal forms of disease, and, we need hardly say, he has met with the highest success. In concluding, he refers to the "immense therapeutical aid" which his method will confer in the treatment of cerebro-mental affections, and

promises to discuss this part of his subject in a succeeding number.

Dr. Daniel Hack Tuke is the author of an article on "*Artificial Insanity, chiefly in relation to Mental Pathology,*" which is concluded in the number for July. We shall consider the two papers together in a brief abstract. The fundamental thought of Dr. Tuke is, "that to produce a disease artificially, and to have it under our control, is an important means of studying its nature;" and this advantage in respect to mental disorder, he deems that we have in that form of nervous sleep best known as hypnotism, and which may be considered an artificial insanity. It is unfortunate that the source of the power by which this condition is induced is yet uncertain. According to one theory, that of Cuvier, it is in the operator, and there is a real effect, apart from the imagination of the subject, and arising in some communication between the nervous systems of the two persons. But the opinion of Mr. Braid, that "the phenomena are induced solely by an impression made on the nervous centres by the physical and psychical condition of the patient, irrespective of any agency proceeding from, or excited into action by another," is that more generally accepted. There is no doubt, however, that originate as it may this condition of mind is clearly analogous to delusional insanity. In the latter disease the delusion is indeed generally shaped by the dominant feeling or passion of the subject, but not seldom by some impressive external fact, such as a political or religious crisis might afford. Here, then, we should have a precise analogy with the suggestion of an operator to his subject. "And how," asks Dr. Tuke, "could we define these induced states of the mind more correctly or more forcibly than in the very

terms which Esquirol employs to define those insane sensations and fixed ideas which seem to me so analogous, if not identical, and from which analogy or identity I think something is to be learnt? 'A person,' says Esquirol, 'labors under a hallucination, or is a visionary, when he has a thorough conviction of the perception of a sensation, when no external object suited to excite this sensation has impressed the senses.'" The writer continues:

> The marvellous effects of sympathy—mental contagion—are, perhaps, nowhere better witnessed than when a considerable number are placed in a condition of hypnotic sensitiveness to suggestion, and are all inoculated with the same idea. In this state we see the counterpart of the epidemic mental diseases of the middle and other ages, and obtain an insight into the condition of the nervous system which ought to serve us a good purpose when investigating them historically, or when meeting them face to face.
>
> Again, ecstatic madness or maniacal ecstasy often finds a remarkable illustration in the temporary condition induced by hypnotic means. In both, the individual may be more or less incoherent, and in both he may forget what occurred when he was affected.

These analogies must be admitted to be real, and should no doubt lead us to hope, with Dr. Tuke, that we may derive some valuable hints as to the pathology of insanity from a consideration of the disease under its artificial and evanescent form. And of these hints that which seems to him of the greatest interest is derived from this evanescent character of the delusions in artificial insanity. "Here we see," he says, "the profoundest conviction, differing so far in nothing from an insane delusion, at once dissipated by certain means. What, one asks, can be the condition of the brain while this induced false conviction lasts? Is it essentially the same, but perhaps differing a little in degree, in delusional insanity? May it in the initial state of the disease have been ex-

actly the same? And if so, what intensely interesting questions suggest themselves, not only in regard to the pathology, but the treatment, of insanity!"

Dr. Tuke proceeds to describe minutely the production of the hypnotic sleep, and analyzes the various physical and mental phenomena connected with it. This is by no means the least interesting part of his excellent paper, but we are unable to reproduce it here. The following is a *resumè* of his conclusions:

To sum up the main points of this paper, I submit—

1. That while dreaming and natural somnambulism bear considerable resemblance to insanity; artificial somnambulism or Braidism, at a certain ideo-plastic stage, is still more analogous to, if not identical with, certain forms of mental disease, and therefore offers a better field for study than the former spontaneous conditions, and is more at our command for purposes of experiment.*

* Of course the same rule holds good here as in drug experimentation—to be careful not to injure the experimentee.

2. That, in all probability, the disturbance of the brain which accompanies artificial insanity is the same *in kind* as occurs in some forms of mental disease, and does not involve structural change.

3. That, bearing this in mind, the prognosis, in certain forms of insanity, should be more favorable than it often is.

4. That the mental condition which I infer to be present in certain forms of insanity, from a consideration of the mode in which artificial insanity may be induced and dispelled, forcibly shows the importance of the moral (or better, the psychical) treatment of the insane, and especially the necessity of acting systematically upon the attention.

5. That it is worthy of trial whether a directly suggestive mode of treatment might not be carried out, in some cases, with success, the medical psychologist availing himself of Braidism to acquire sufficient control over the patient's mind to direct the current of his thoughts from morbid into healthy channels.

6. And lastly. That there is reason to think that, independently of the suggestive treatment, refreshing sleep might sometimes be procured, and restoration to health accelerated, by inducing artificial somnambulism or hypnotism.

"*The Suicide of George Victor Townley,*" is a brief editorial notice of the closing scene in the case of that noted criminal. He murdered a young woman who had discarded him, and on his trial pleaded insanity in defence. At first the plea of delusional insanity was set up, but "moral insanity" was the final resort of his counsel, and was sufficient to prevent the full penalty of his crime being awarded him.

Dr. Forbes Winslow was the leading expert who testified in favor of his insanity, and Dr. Bucknill the most eminent of those who denied it. We regret to believe that this forms another sad instance in which the fair fame of our profession has been injured, and the good sense of the community outraged, by the effort to sustain the fatal doctrines of moral insanity. But the accused has, of his own will, finally yielded his life for the life so atrociously taken away. He threw himself from one of the galleries of his prison some twenty-four feet to the floor below, and lived but a few hours after. A coroner's jury brought in a verdict of suicide while laboring under insanity, and the act has been adduced as favoring the opinion of insanity at the time of the murder. This view is, however, vigorously and we think successfully combatted by the editors, who find in the suicide a logical and fitting sequence of the murder.

Dr. Robertson returns to his former subject, "*On the means of Extending the Public Asylum System,*" apropos of the late discussion before the *Société Médico-Psychologique*, of the same important question. This discussion was noticed at length in our number for April last, and as Dr. Robertson does not further enlarge upon his own views in this place, we shall pass to another article.

In the department of Clinical Cases, Dr. Samuel Wilks

treats of "*Cysts in the Cavity of the Arachnoid, or Hæmatoma of the Dura Mater, with remarks on their formation.*" We have noticed, in this article, a contribution to the same subject by Dr. Ogle. Dr. Wilks having in his possession a specimen of this rare form of cerebral lesion makes it the subject of a few remarks. In regard to the origin of these cysts, he favors the theory of a chronic change in effused blood, rather than that which makes them the result of the organization of lymph poured out during a former arachnitis. The effusion, he thinks, has probably occurred in most instances from a blow in the head, which has ruptured a vessel of the pia mater, but he admits that the blood may some times have been effused spontaneously in disease. The question in which of these two modes a given case has arisen may be very important in a medico-legal point of view. But, fortunately for our diagnosis, injuries to the head generally affect the surface of the brain, whilst disease involves the interior.

Dr. W. thinks that the supposed variety of these cysts is owing to their having long been mistaken for lesions of a different kind. He "deems it highly probable that many of those cases where so-called layers of lymph have been met with on the dura mater have been instances of this cyst development." Formerly, "the fact of a clot of blood putting on a membraniform appearance was scarcely recognized, and yet it is constantly witnessed in the case of a clot forming in a blood vessel, or in a coagulum discharged from the uterus, and which may in consequence be mistaken for an ovum; and so in many other instances." These seeming membranes were, we know, supposed to be the product of inflammation, and

served to support the old opinions as to the nature of a large class of cerebral disorders.

The review department opens with a critical estimate of a work by George Henry Lewes, on "*Aristotle; a chapter from the History of Science, including an Analysis of Aristotle's Scientific Writings.*" In the opinion of the learned reviewer, what we may derive from this book "is an accurate appreciation of the degree in which Aristotle's information in scientific matters, and particularly as to biology, forestalls or foreshadows the advanced science of the present day." Mr. Lewes has also "rightly regarded Aristotle as the father of ancient science," and thus has acted wisely in selecting his works as a text for treating of the historical development of scientific opinion. And that in medicine, as in other branches of science, "opinions always have a history and an organic growth," the knowledge of which is of the highest importance to our profession, can not be denied. But the reviewer is disappointed "that notwithstanding the principles clearly laid down in the preface, there is comparatively little to be seen in this volume of the true influence of Aristotle upon succeeding philosophers and men of science. He also doubts whether Mr. Lewes has been fortunate, in all cases, in appreciating the ideas of his author. Especially in the two treatises, "*De Anima*," and "*De Generatione Animalium*," are these misconceptions apparent. But into the abstruse discussions to which the reviewer's criticism would lead we cannot now enter. Notwithstanding an important difference of view, in taking leave of Mr. Lewes' book he expresses a high sense of its value—"a value which cannot be measured adequately by a merely critical estimate of its contents."

Dr. C. Hanfield Jones' "*Clinical Observations on Functional Nervous Disorders*," and a work on "*Practical and Pathological Researches on the various Forms of Paralysis*," by Dr. Edward Meryon, form together the subject of an interesting notice. "The chief value of these books," says the reviewer, "consists in the attempts of their authors to read by the light of the most recent physiological investigations the pathology of disorders of the nervous system, and to lay down (so far as our present knowledge will allow) a clearer and better defined plan for their treatment than that which we have hitherto possessed." Our diminishing space will only permit us to add that from the excellent analysis of the works, as well as the high praise accorded them in terms, we should judge them to be of more than common interest and importance.

Dr. Barclay's book on "*Medical Errors. Fallacies connected with the application of the Inductive Method of Reasoning to the Science of Medicine*," meets with such a keen and scathing criticism as we are little used to find in the pages of a medical journal. The work is not sufficiently analyzed to permit us to form an opinion as to the justice of this terrible cutting up, but as the author has himself dealt very severely with some of the highest names among cotemporary medical writers, there is a fair presumption, at least, that he has deserved his fate.

The number for July has for its first article an analysis of the "*Statistics of Insanity of the Crichton Royal Institution, Dumfries*," by Dr. Hugh G. Stewart, assistant medical officer to that Asylum. It is not claimed that these statistics are so perfect, or extend over so long a term of years as to give them unusual value, but they are calculated at least to satisfy a much more rational

interest than those of Dr. Boyd in a preceding number. They are for twenty-four years, and appear to be as complete as could be expected for so long a period, and as the work of three successive observers.

We find that 16 per cent. more males than females received treatment. The number of recoveries was greater among the females. The deaths were nearly equal in each sex.

Most of the patients were single. There were more recoveries and less deaths among the married. Of the married who had children, more recovered and less died than of the childless.

There were less recoveries among the better educated class, but the highest mortality occurred among those of less education.

There were relatively less recoveries and more deaths among members of the learned professions than of any other class. The class of artisans afforded most recoveries, "proprietors next, commercial men next, and architects, engineers, &c., next." Among females, the fewest recoveries were found among the affluent, and there were more deaths among this and the artisan than among the commercial class.

Physical causes were ascribed in a greater number of cases than moral; the latter class of causes was more efficient in women than in men. Among those insane from moral causes there were more cures and more deaths, both of males and females, than among the insane from physical causes.

One-half the cases were hereditary, and in 12 per cent. the insanity was ascribed entirely to heredity.

The greatest number of first attacks occurred between the ages of 20 and 30. The most recoveries were of

those between the ages of 10 and 20, and 40 and 50 years; they were next greatest in number between the ages of 20 and 30. The per-centage of deaths was highest among the class of greatest age at the time of first attack.

Of the admissions, 66 per cent. were cases of first attack, 15 per cent. second, 7 per cent. third, and 9 per cent. more than the third attack. The proportion of deaths was highest in the cases of first attack.

The deaths were fewer among the recently attacked than among the cases chronic at admission.

Nearly one-half the patients were in good bodily health; in 31 per cent. it was indifferent; and in 18 per cent. bad. The recoveries were greatest in those of indifferent, and least in those of bad health. There were the least deaths of those in good health, and most among those in bad.

The greatest number of those admitted were from 20 to 50 years of age. The proportion of deaths steadily increased with the increase of age.

Mania was the most frequent form of disease; next melancholia, next monomania, and next dementia. After dipsomania melancholia was most curable, and after it mania and monomania. Deaths were most frequent in dementia, less so in monomania, and least frequent in mania and melancholia.

In the greatest number of cases insanity lasted less than one year. More than half of those remaining only a month in the asylum died; in those six months under treatment there were the least deaths; and afterward the mortality, on the whole, went on increasing.

Under the head of Clinical Cases, Dr. G. Mackenzie Bacon writes of "*The Pathology of a Case of General Paralysis; with a Report of the Microscopical Examina-*

tion of the Brain," made by Dr. Samuel Wilks. This was an ordinary case of the disease, and its interest centres in the autopsy. The microscope showed all the vessels of the brain, and especially those of the medullary substance, to be ossified, or containing in their coats calcareous salts. The cineritious substance was greatly degenerated, and instead of "the natural fibres and ganglionic cells only, was full of granules and small irregular-shaped bodies, not conglomerated, but at certain intervals apart." These were "irregular in outline, triangular, or with processes suggesting that they might be the ganglionic cells which had become wasted or calcified."

First in the review department of this number, is an excellent paper, based upon a number of new works on the various Roman, Turkish and Anglo-Turkish baths, in which the subject of bathing is treated in its relations to medicine and hygiene.

The writer begins by enlarging upon the ignorance and prejudice which prevail, even in the most enlightened countries, in regard to bathing. In common and sea bathing a great mistake is made in insisting that the bather should be thoroughly cool before entering the water. "In other words, instead of acquiring caloric wherewith to meet the depressing shock of cold water, he is made to part with as much caloric as possible." The immediate result is seen in chattering teeth, and numb and bloodless extremities, and the ultimate effects "in chlorotic looks, in constipated bowels, in susceptibility of cold, in general languor, in vitiated appetite, in scurfy and unsecreting skin." The prejudice from which this really great evil follows, it is the office of the Turkish bath to remove. It has proved, "that the most profuse perspiration may be suddenly checked, not only without risk,

but with the most positive advantage." In fact, "the vigor of the circulation and the heat of the body are the true measure of capacity for cold. The reaction from the shock of the sudden change is glowing and immediate, and, in a healthy skin, manifests itself in renewed transpiration. But there is no reaction to one who plunges into cold water with a cold skin."

Another popular prejudice is that which "forbids the exhibition of cooling drinks when the system most needs them—in other words, when it is at the highest pressure of vital force. When does man most need water? When nature makes its most imperious demand: when she requires that the fluids eliminated by perspiration and other secretions shall be replaced. Here again, thirst, which is the ratio of heat, is the measure of the capacity for cold." Respecting these two popular errors, the reviewer further says:

These are the two great traditions of ignorance which have been religiously preserved to this generation, and which have stood between fully satisfactory and health-giving results from the ordinary water-bath in daily use amongst us. And yet, happily, with the advance of social science, and the increased supply of water by the great companies to all large towns in England, the passion for bathing has greatly increased; "baths and wash-houses" are eminently successful. There are more clean skins (relatively clean,) in the ratio of twenty-five to one, among the artisans of London than there used to be twenty years ago. This is a great move in the right direction. But more remains to be done yet. *The true bath of hot air, and then of water,* by which the skin is rendered *absolutely* clean, must become a great national institution. Before it our prejudices will fall, and our ignorance be dissipated. Our national life will be larger, our means of resisting climatic changes and repelling disease multiplied. We invite the rich and over-fed by telling them that in the land where the bath has alone been preserved the agony of gout is unknown.* We invite the poor and the under-fed by telling them that heat is life; that a porous and unscarfed skin is another lung in this smoky London; and the more

oxygen they imbibe the greater will be their capacity for the pressing duties of manual labor.

We should be glad to quote very largely upon a subject of so much interest, and from an essay so admirably written. But our purpose is rather to give a picture of our cotemporary than to transfer its pages to our own. The writer notes the progress of Turkish bathing in Great Britain, and proceeds to give a history of the bath in various countries, and at various stages of civilization. He next notices the forms of disease under which Turkish bathing may be used with safety not only, but with decided benefit. And perhaps the impunity with which the sufferer from heart-disease, fevers and phthisis may pass twenty minutes in a chamber heated to 150°, preparatory to being vigorously shampooed and drenched with warm water, will astonish the reader more than anything else. But not only may such patients bathe with impunity, it is claimed to be extremely beneficial to them. As to rheumatism and gout, the bath is a real specific.* What concerns us most, however, is the statement that "beneficial effects are likely to accrue, and have already accrued, from thermal agency in the treatment of mental disease." It has already been applied with marked success in many of the Irish County Asylums. "In England, at Colney-hatch Asylum and several others, baths are now in process of construction; and Dr. Robertson's ex-

* Gout, a true blood-disease, is said to be unknown amongst the Turks; and this exemption is probably as much due to the free action of the skin caused by the bath as to their temperate habits. In estimating the value of the bath, however, as a curative agent, the special effects of caloric are to be taken largely into account. The effects of the higher degrees of heat possess a great, but as yet an almost unrecognized importance.—*Dr. Leared, from the "Lancet," November and December*, 1863. ["*Manual*," *pp.* 259-60.]

perience at Hayward's-heath is so satisfactory that we hope, in a few years, no county asylum will be without the opportunity of confirming his important evidence. The functional disturbances which are leagued so extensively with insanity, the imperfect nutrition of the brain, and, above all, the peculiar condition of the skin, invite the action of the hot-air bath, on reasonable grounds, with abundant promise of success. Dr. Robertson alludes to the latter symptom as one especially met by the application of the bath, which has a specific power to remove the noxious secretion of the skin, so frequent with the insane, and which, in the asylums of twenty years ago, one could recognize as distinctly as the smell of a dog-kennel, and which still sometimes refuses to yield to ordinary ablution. The bath entirely removes this unpleasant complication."

The writer closes with a detail of the several processes of the Turkish bath, as improved and exemplified in the bathing-houses of London; which, in a period of two years, have received the patronage of more than 130,000 persons.

The issue of a second edition, revised and enlarged, of Dr. A. Brièrre de Boismont's great work, "*Du Suicide, et de la Folie Suicide,*" is made the occasion of an article on that subject, always so full of a melancholy and curious interest. The article is an able analysis of the most noteworthy portions of Dr. De Boismont's book, with much that is new from other sources, and something of the writer's own conclusions. Among the latter is, "that as knowledge advances, the number of 'reasonable' suicides will diminish to a vanishing quantity, and it will be more and more understood how impaired volition can be as much a matter of disease as a delusion or a

state of raving." We can easily believe one holding such an opinion, may be able to accept Buckle's dictum, that "suicide is merely the product of the general condition of society, and that the individual felon only carries into effect what is a necessary consequence of preceding circumstances."

The "*Autobiography of the late Sir Benjamin C. Brodie, Bart.*," forms the subject of the last book-notice in this number. The notice is little more than a condensation of the main facts of the book, and these have been made familiar to our readers through the newspapers. The author has not formed an exalted estimate of the mind and character of his subject, but it seems a candid, and is, perhaps, a nearly correct one. Sir Benjamin was, he thinks, a man of sense rather than of genius; a man of the times, rather than of all time; a man who had much shrewdness and sagacity, great tact and industry, and withal "the sunshine of whose prosperity was never darkened by a single cloud."

We now close our notice of the chiefly original parts of this journal with the feeling that it would not be easy to speak in too high terms of the spirit and ability with which it is conducted. But we must also refer to the part edited by Dr. J. T. Arlidge, the "Quarterly Report on the Progress of Psychological Medicine." This forms an important feature of the journal, and is made very complete and full of interest. As a whole, the *Journal of Mental Science* well deserves to be the representative, in Great Britain, of a specialty which embraces the names of so many men eminent for philanthropy and learning.

On Sleep and Insomnia. By WILLIAM A. HAMMOND, M. D. New York.

This memoir, on the physiology and pathology of sleep, and the treatment of insomnia, has been reprinted from the *New York Medical Journal* for May and June of the present year. The subject is one of great practical interest, and Dr. Hammond brings to its examination that vigor of reasoning, and fulness of personal experience, which appear in all his works.

It has been supposed for centuries, and is now generally held by physiologists, that during sleep the cerebral tissues are in a degree congested, and that this congestion is, in fact, the proximate cause of sleep. Dr. H. seeks to establish, on the contrary, "that sleep is directly caused by the circulation of a less quantity of blood through the cerebral tissues than traverses them while we are awake." This, too, he deems the immediate cause of healthy sleep. The argument from analogy is, that as regards other viscera than the brain, it is well established that during a condition of activity there is more blood in their tissues than while at rest. From observations on the human subject, in cases where accidental fracture of the cranium has exposed the cerebral mass, and from experiments upon animals, are drawn the positive proofs of this theory. Of these proofs, detailed by Dr. H., several are cited from Blumenbach, Dendy, Fleming, and others, but they are taken mainly from his own experience. Not only was the quantity of blood circulating through the brain during sleep found to be less than during wakefulness, but sleep was directly induced by arresting the flow of blood to the head.

What, then, are the pathological relations of insomnia, and what is the proper treatment for it? In the opinion

of Dr. H., "no one cause is so productive of cerebral affections as persistent wakefulness." "We should be careful, however," he says, "not to mistake the effect for the cause, an error which is often committed in this as well as in other matters. It is well known that many cases of insanity are marked in the early stages by persistent insomnia. Doubtless this is frequently a consequence of the morbid action already set up in the brain, but much observation has satisfied me that it is more often the cause of the cerebral aberration, and that by proper medical treatment the mental excitement may be generally allayed. Certainly the means most commonly resorted to in such instances are adopted without the full consideration so imperatively necessary, and consequently are fully as liable to increase as to lessen the disturbance."

The fact that attacks of insanity are very frequently introduced by a period of sleeplessness has long been well known, and up to a recent period "want of sleep" has had an important place in the tables of causes of mental disease. Dr. Brigham, the first editor of this journal, attributed a large proportion of the cases observed by him to this cause, and in his work "On the Brain," urged the extreme importance of the prevention and treatment of insomnia. No one will deny the practical wisdom of this doctrine, though we may well doubt, with Dr. H., the value of the remedies usually resorted to. But it is our own, and at present we believe the general opinion, that insomnia can not be termed a common cause, strictly speaking, of mental disease. Where sleep has either been voluntarily refrained from, or has been made impossible to the patient by some obvious cause, then the insanity may properly be considered as

due to insomnia. Instances of this kind are, however, comparatively few. Insomnia will much oftener be found to be due to that cerebral erethism which is a part of the insanity, and proceeds from disordered nutrition of the brain substance, itself the result of hereditary or other slowly and obscurely developed causes.

Dr. H. makes two divisions of insomnia, sthenic and asthenic. In both, however, there is always an increase in the quantity of blood in the brain. In the first, this excess is absolute. The whole system is rich in blood, which from various causes may be determined to the head. In the second, there is only a relative excess. From hemorrhage, or other source of exhaustion, the system has become exsanguinated, and to this the brain has adapted itself. But there is in such a condition great liability to a rush of blood, as it is called, to the head, and consequent insomnia.

The pathological cause in each of the two forms is then similar; but as the means of relief are not altogether the same in both, it is important to discriminate between them. The sthenic form is illustrated by the case of a banker, who, during a period of great financial excitement, had kept his brain so continually active that sleep became impossible to him. His appetite was good, and all the bodily functions were properly performed. When first seen by Dr. H. he had not slept at all for six nights, though he had taken large quantities of brandy, morphine and laudanum. He experienced no unpleasant sensations during the day, beyond a slight confusion of mind at times, and a little pain in his eyeballs, but on going to bed a feeling of most intense uneasiness came over him, and at the same time his face and ears became

hot and flushed. His mental faculties were excited to increased action, and sleep was altogether impossible.

This patient was cured by the bromide of potassium, given in the dose of thirty grains twice in one evening, and once on the night following.

An instance of asthenic insomnia is given in the case of a lady who was greatly reduced in health by menorrhagia, and long wakefulness under mental anxiety. Large doses of laudanum, ether, valerian, and many other medicines had been taken, all without effect. When first seen she was highly nervous and irritable, hands very tremulous, eyes bloodshot and the pupils contracted. There was a constant buzzing in her ears, hearing was preternaturally acute, and a general hyperæsthesia of the skin prevailed over the whole surface of her body. At night all these symptoms were increased in violence, and the most tormenting fancies and hallucinations thronged her mind. She was, however, fully sensible of the unreality of her visions, and had no tendency to mental disease. Her case being regarded as one of relative or passive cerebral congestion, she was ordered an ounce of whiskey every hour for six hours before bedtime, when she should sit up to the neck for half an hour in a bath at 98° F., and afterward in an easy chair, and try to sleep in that position. This treatment was entirely successful.

The causes capable of inducing hyperæmia of the brain and insomnia, are placed by Dr. H. under three heads:

"1st, *Long-continued or excessive intellectual action, or any powerful emotion of the mind.*"

That cerebral activity, or mental emotion, does produce a degree of congestion of the brain, all analogy and

observation abundantly testify. It is well known, too, that if by the use of stimulants we send an increased quantity of blood to the head, the functions of the brain will be more actively performed. But if, either by the force of will or by stimulants, the brain is kept active for a long period during which its vessels are filled to repletion, these will finally lose their power of contraction. Just so the bladder, when a desire to urinate has been for a long time resisted, becomes paralyzed, and cannot be emptied by the strongest effort of will. Instances of insomnia coming under this head are extremely common.

"2d. *Those positions of the body which tend to impede the flow of blood from the brain, and at the same time do not obstruct its passage through the arteries, whilst causing hyperæmia, also produce insomnia.*"

This statement cannot, of course, be intended to have so general an application as its terms would warrant. That the prone position is naturally unfavorable for sleep, will not be credited by that large proportion of mankind who go to bed at night with the unfailing expectation of at once falling asleep. It seems reasonable to suppose that where excessive use of the brain has deprived its arteries of their proper tonicity, by inducing a paresis of the *vaso-motor* nerves, lying down may increase the congestion and the consequent insomnia. Advanced age brings on the same condition of the cerebral arteries and brain substance, and we know that old people often sleep best when sitting. But in cases of insanity and cerebral disorders in general, we do not believe that this mechanical cause plays an important part. Physical rest, and the force which must belong to the habit of sleep in the prone position, have seemed, in our

experience, more than sufficient to overbalance any disadvantage arising from it.

"3d. *An increased amount of blood is determined to the brain, and insomnia is produced by certain substances used as food or medicine.*"

A too rigid determination to simplify and systematize is apt to be a fault of the most acute and highly scientific minds. In this way facts are not seldom bent to the support of a theory which they do not favor, and sometimes are even ignored or rejected. Our present knowledge will not permit us to frame a complete and rational theory of the action of any one narcotic, much less of the whole as a class. That a degree of congestion of the brain and insomnia are conditions which of necessity go together, we also think it hazardous to assert. The converse of this, that "no substance is capable of acting as a direct hypnotic except that which lessens the amount of blood in the brain," seems even less clearly warranted by the common experience.

Dr. H.'s theory leads him to place among the agents which produce a determination of blood to the brain and consequent insomnia, alcohol, opium, belladonna, and the whole list of narcotics, while the only true hypnotic is the bromide of potassium. We doubt if such a classification represents more than a single aspect of the many-sided relations which these substances bear to the human organism. What marked differences, for instance, in the action of alcohol and opium. Opium and belladonna, too, are well known to be antagonistic in some of their most striking effects. According to Dr. C. Hanfield Jones, the former contracts the vessels of the brain, while the latter dilates them. Much indeed remains to be learned upon the whole subject, and we would say only

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that Dr. Hammond's theory is not in all respects satisfactory. The fact that alcohol and opium may produce coma, he believes to be in consequence not of an increased amount of blood in the brain, but of the circulation of that which has not been duly oxygenated. "My experiments," he says, "on this head have been many, and show conclusively that neither alcohol nor opium possess any narcotic effect if means be taken to insure the full æration of the blood. If these substances be administered beyond a certain limit, they so act upon the nerves which supply the respiratory muscles as to interfere with the process of respiration, and hence the blood is not sufficiently subjected to the action of the atmosphere." But if opium may thus act upon the nerves which supply the respiratory muscles, why may it not have a specific effect upon the cerebral substance? To us it seems more rational to suppose this than that the sleep of opium is true coma, and the immediate effect of poisoning by carbonic acid.

The chief means of treatment for insomnia are, in accordance with the principles of Dr. H., those agents "which, either mechanically or through a specific effect upon the heart and blood vessels," lessen the amount of blood in the brain. Under this head, of course, opium and the other narcotics are not mentioned. Alcoholic liquors are, however, considered to be highly useful in asthenic insomnia. The only drug recommended in the sthenic is the bromide of potassium. This, he believes, may almost always be used with advantage to diminish the amount of blood in the brain, and to allay any excitement of the nervous system that may be present in connection with such an excess. But in addition to this are the important hygienic means of position and tem-

perature. To the former we have already alluded. The warm bath is considered a most valuable means of determining blood from the head, and calming nervous irritability. Especially in children, putting the feet into water of the temperature of 100° F. has been found, by Dr. H., sufficient to induce a sound and healthy sleep, when laudanum and other means have failed. He also recommends cold water applied directly to the scalp as often of great effect in diminishing the amount of blood in the cerebral vessels, and inducing sleep.

Now we can not fully accept the views of Dr. Hammand, and consent to banish, or even greatly to degrade narcotics from the high position which they have so long maintained in the treatment of insomnia. But a large observation in cases of recent insanity has convinced us, that as too often employed they are more hurtful than beneficial. Since venesection has become partially obsolete in the routine treatment of mental disorder, opiates seem to have taken its place, and it would not be easy to say which, on the whole, is the worse for the patient. Moderate and timely bleedings were doubtless beneficial in certain cases of mania, in its incubative stage. So also are opiates, especially when combined with other drugs and with certain hygienic remedies. But if a senseless routine of prescribing for names instead of pathological conditions must continue, we shall declare for the simple and harmless measures of Dr. Hammond, even if we do not admit his theories sufficient to account for all the phenomena of sleep and wakefulness.

SUMMARY.

ON SEPARATE ASYLUMS FOR CURABLES AND INCURABLES.

A superficial and long-ago exploded theory of separate establishments for the curable and so-called incurable classes of the insane has been lately revived, to some extent, in this country. By the great majority of medical officers of American Asylums this proposition is entirely disapproved, but the advocates of the measure have borrowed a certain fictitious influence from the action of the Legislature of this State in its creation of the Willard Asylum for the Chronic Insane. It should be borne in mind, however, that the measure was adopted by the State Government during a period of civil war, when the great question of the day absorbed every thought; and that the time and occasion were unfavorable to calm investigation and discussion of subjects of lesser moment. It was adopted at a time also when the startling disclosures of Dr. Willard's Report brought home to the mind of every legislator the necessity of immediate action and relief. It is not surprising, therefore, that a law enacted under such circumstances and embracing a subject of such magnitude as proper provision for the insane should, to some extent, be based on wrong principles. The next Legislature will convene under happier auspices, when the defects of the existing law will, we trust, be fully considered and the policy of

the State brought into full accord with the demands of medical science and the humanity of the age.

Elsewhere in the pages of the JOURNAL will be found a discussion of some of the cardinal principles upon which the treatment of the insane is based. In connection with this paper* we ask the reader's attention to the following extract from an able work entitled, "The Construction and Organization of Establishments for the Insane,"† by Henri Falret, Docteur en Médecine de la Faculté de Paris:

SHOULD CURABLES AND INCURABLES BE RECEIVED IN THE SAME ASYLUM?—After the impulse given by Pinel to an enlightened and kind treatment of the insane, at the beginning of this century, the asylums became insufficient, and it was necessary to erect new ones more in accordance with the demands of medicine and humanity.

It was then that the thought occurred, which seems so natural at first sight, of giving special care and attention to those cases susceptible of cure, and of erecting for them alone, asylums entirely in conformity with the progress of science. This separation, enforced by circumstances, was a marked advance upon the former state of things, by putting a stop to the indiscriminate mingling of the insane, and contributing powerfully to destroy the prevalent idea of the incurability of insanity. But this separation, the result of an accidental necessity, has more lately been established into a system.

In France, this theory, although sustained by Esquirol,‡ has not found any real application; and if at Saltpétriére the curables and incurables have been placed in different sections, it is more in consequence of an administrative measure, than from medical reasons. In England there are only two asylums, Bethlem and St. Luke, designed exclusively for curables; however, the Metropolitan commissioners§ have pronounced in favor of the separation of the two classes; but it

* Article on the Willard Asylum and Provision for the Insane, p. 192.

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is above all in Germany that absolute separation in distinct asylums has been carried out, and elevated to the rank of a scientific theory. Reil and Langermann, its most ardent supporters, obtained from the different governments of the German confederacy several establishments designed expressly for curables. That at Sonnenstein was erected in 1812, Siegbourg in 1825, and Winnenthal in 1833. Hayner, in devoting himself to the perfecting of asylums for incurables, and in producing remarkable results, has added another powerful argument in favor of the system of separation.

The motives which have influenced these physicians, are of two kinds: Administrative and Medical:

1st. *Administrative Motives.* The treatment of mental alienation, requires particular and expensive arrangements. It is just to unite these favorable conditions in asylums for curables; but it would be superfluous to incur the same expenses for incurables.

2nd. *Medical Motives.* An asylum for treatment, and for refuge, having two distinct aims; these two aims cannot be obtained by the same means; they should then, be entirely different, in regard to construction and organization. To unite the curables and incurables in the same asylum, would be to retrograde to the period when the insane were all placed together, without the slightest distinction, and fatal to treatment, in bestowing upon the incurables a share of that medical attention which should be concentrated upon the recent and curable cases.

Finally: the sight, and presence of the incurable patients, produces a painful and injurious impression upon the curable ones.

These reasons, which for a long time, have convinced some of the most distinguished physicians have been powerfully combatted by Dr. Damerow, physician at the asylum of Halle, in Prussia, in a work entitled "*Ueber die relative Verbindung der Irren Heil und Pflege Anstalten, Leipzig*, 1840."

In adding to his own arguments those which had been given some years before by other physicians, particularly Flemming* and Roller,† he has given a fatal blow to the separation of curables and incurables in distinct asylums.

The inconveniences mentioned by Damerow can be divided into two classes, those resulting from the two asylums being distinct from

* Zeitschrift von Jacobi und Nasse, p. 722.

† Grundsœtze, etc., p. 93 et suiv.

each other, and those resulting from the distinction established between these two orders of insanity.

A. The inconveniences resulting from the separation of the curables and incurables in distinct asylums, are:

1st. The indefinite delay of isolation and seclusion, and consequently of cure, by reason of the formalities necessary before deciding to which of the two asylums the insane person should be taken. In some countries they have proposed to remedy this evil by passing all the new patients through the asylum for curables; but this destroys the exactness of the separation, and the institution for curables will be found to contain many incurables.

2d. The prolonged stay of incurables in the asylum for treatment, by reason of the obstacles to their removal.

3d. The difficulty if not impossibility of repairing an error of diagnosis, and of returning the patient to the asylum for curables.

4th. The inevitable increase of the expense of construction and support, as the administration and medical services require to be doubled.

B. The inconveniences resulting from the distinction of the patients into curables and incurables are:

1st. The impossibility for the physician in the actual state of science to pronounce with certainty; the numerous mistakes which he must necessarily commit destroying the aim of the Institution in encumbering with incurables the asylum for curables, and depriving the insane still susceptible of recovery of the most favorable conditions of the asylum for treatment.

2d. The pain given to the insane themselves, for the greater part of them are far from being insensible to this change.

3d. The pain inflicted on good parents and friends to whom the decision of incurability leaves no more to hope for, and the encouragement given to unkind ones who are glad to have a pretext for their neglect.

4th. The obstacle to the progress of science in giving to some physicians opportunity to observe only the acute stage of the disease, and to others only the advanced periods, and to make from them alone his autopsies without the power of throwing any light upon them by the knowledge of anterior facts.

5th. The ungrateful office assigned to physicians in asylums for incurables, who cannot have as a recompense for their trouble and anxiety, the hope of effecting a cure.

After having combatted in so successful a manner the separation of curables and incurables in distinct asylums, Damerow stops half way, and instead of renouncing all separation, is in favor of what he calls a *relative union*, that is to say, the separation of curables and incurables in *the same asylum* under the same superintendence, and with the general services in common. This mixed system, which has been so much liked in Germany, is applied to the greater number of the new institutions, among which we may mention the asylums of Illenau, of Prague, and of Halle.

The system of relative separation has not all the inconveniences of absolute separation; thus it remedies all those resulting from the first class; the asylums being united, there is no delay in sending the patients; the facility of transfer prevents the prolonged stay of the incurables with the curables, and gives opportunity to repair promptly an error of diagnosis; and the expenses are diminished, as there is only one administration and the general services in common. But do not the inconveniences of the second class still exist in the system of relative separation? Without doubt the connection of the two asylums diminishes some of the difficulties; but can we say that those which belong to the very nature even of separation are completely removed by the sole fact of the juxtaposition of the asylums? Is there not for the physician the same difficulty in determining the case; the same danger for the Institution by reason of the stay of a great number of incurables in the department for curables; the same inconveniences for the patients who are victims of an error in diagnosis? And if it is easier to repair a mistake by reason of proximity, can we believe that the physician who has committed it, would be the one suitable to rectify it? Finally does not the pain inflicted by the judgment of incurability on the insane themselves, and on their friends always exist?

Relative separation then, though preferable to that which is absolute, has still the inconveniences which belong to the latter. Why not then renounce completely the separation of curables and incurables? The pretended administrative and medical advantages which we have mentioned in the commencement, and which have influenced the German physicians so far as to induce them to prefer even absolute separation to the union of curables and incurables, seem to us more apparent than real.

What economical advantage is there in the separation of the two classes, unless we suppose that the incurables are neglected, and that all

is not done for them which the claims of humanity demand? In what differs the divisions for curables and incurables in the establishments of Illenau, Halle, and Prague? Has not their construction cost as much? Is not the number of sections the same? And are not these two establishments joined to each other? In doubling thus the number of divisions the whole expense of the institution is considerably augmented. Ought not the incurables to work, both to occupy their time, and for their benefit? Have they not need of attendants to watch over them? Of a physician to care for their accidental maladies, or to regulate their regimen and their conduct?

At the present time then, the condition of a good asylum for refuge, differs so little from that of an asylum for treatment, that the saving of expenditure which might result from their separation is altogether fallacious, and far from attaining the economical end had in view by the absolute or relative separation of curables and incurables, the expenses of management are increased. The medical advantages which have been supposed important are also entirely illusory. What evil influence can the sight and presence of incurables have upon the curables. If this influence exists, absolute or relative separation remedies it but very imperfectly, because it is acknowledged that in the asylums for treatment, there are scarcely more than 20 or 30 curable cases in 100. As for the rest, we admit that in a well conducted establishment the epileptics should have a separate division; that idiots, and some patients altogether degraded in mind or person, negligent and unclean, and who exert an injurious and painful influence upon other patients, should be carefully separated from them; but we separate them as violent, disorderly or slovenly, and not as incurables. We do not admit that an insane person, because he is incurable, can have any evil effect upon those susceptible of cure; he may be to the contrary much more calm, much more manageable and conduct himself much better than they do; and far from being injurious, may exert a happy influence, by the habits of order, of regularity, of industry and obedience, which he has acquired during a long stay in the asylum, or which have become easier to him in consequence of the cessation of the violent symptoms of his malady.

Why should a physician necessarily have too much of his attention taken up by the incurables, because they are placed with the curables? Can he not recognize the sick? Has he need that they should be pointed out to him by the arrangement of the buildings, in order that he should recognize those who may claim more particularly his atten-

tion? Besides, is it not easy for him to unite in a sub-division of those who are quiet, the insane that at the time seem to require more especially his care, without having recourse to a fundamental division serving as a basis for the general plan of the establishment, and made superior to that for the separation of the sexes?

In conclusion, the medical and administrative advantages resulting from the absolute or relative separation of curables and incurables, not having the value which has been attributed to them, their union should be preferred; but a *methodical* union, which seems to us as much superior to relative separation, as that is to absolute separation, and as this last is to the indiscriminate mingling of former times.

AN ASYLUM FOR THE INSANE SHOULD BE NEAR A LARGE CITY

Nearly all authorities agree in the opinion that Asylums for the insane should be located in the neighborhood of cities. Various circumstances conspire to make such a relation particularly advantageous to the institution.

In the first place it greatly diminishes the construction account of the asylum. The city affords a cheaper market for material and supplies for building; and these can be obtained at such times and in such quantities as necessity indicates, and without the expense of transporation, reshipment, etc. From the foundries and machine-shops of the city are easily transferred the boilers, engines and apparatus for supplying the house with heat; and necessary repairs of machinery can be secured without delay. In a city labor is more abundant and more readily retained. Workmen gather to their own homes at night and thus relieve the institution of trouble and expense of subsisting and controlling large bodies of temporary employees.

To be in the vicinity of a city greatly enhances the material and moral prosperity of an asylum. The intel-

ligent and refined, the philanthropic and wealthy citizens become interested in its welfare and lend their aid and influence.* Thus the asylum becomes the recipient of numberless favors which could not otherwise be secured, and patients are cheered by the thought that although far distant from home, they are still objects of interest and tender solicitude. The active and enlightened interest thus manifested by the classes referred to tends to elevate the character and reputation of the asylum at home and abroad, and to increase its usefulness.

The neighborhood of a city offers advantages in the way of its varied entertainments. Amusements constitute an essential feature in the treatment of insanity. They serve not only to break the monotony of asylum life by diverting the mind but they operate as tonics and stimulants upon the diseased mental organization. The engagements of musical celebrities, distinguished public lecturers, and the like, are altogether with large cities; and in our experience at this institution we have always found that these caterers to the entertainment or instruction of the public, when visiting Utica, have with a generosity and kindly feeling which has become characteristic, volunteered a repetition of their performances at the Asylum for the gratification of the patients.

Another advantage we should not omit to mention is the facility for communication by the horse-railroads which now traverse the thoroughfares of our principal cities and stretch their lines into the neighboring suburbs. These not only offer ready conveyance to those visiting the institution on business or to see their friends, but they afford the means, at small expense, by which feeble

* This fact has been strikingly exemplified in the history of the Pennsylvania Hospital for the Insane, at Philadelphia.

patients and women may enjoy the benefits of out-door air and exercise, from which they would otherwise be debarred.

The vicinity of a city enables the asylum to purchase at great advantage its supplies and provisions, particularly those which are of a perishable nature. At the same time it furnishes a convenient market for the sale of the surplus products of the farm and garden; thus adding materially to the revenue of the institution.

The advantages of a city, social and professional, to the medical staff of an asylum, will be readily appreciated by those familiar with the exacting and exhausting character of exclusive practice among the insane. Another beneficial result is the facility afforded for obtaining the best medical and surgical counsel in obscure and difficult cases. Moreover the vicinity of a city enables the asylum to secure a better and more permanent class of attendants. It would be almost impossible to retain for any considerable time in an entirely solitary spot in the country, an efficient and intelligent corps of attendants. Irritability and ennui are the natural effects of constant association with the insane and the thousand petty annoyances which beset and the wearisome duties which devolve upon such attendance. Hence the need of diversion and frequent contact with healthy minds, for which the amusements and social enjoyments of a city afford ample scope. A large class of attendants in every asylum are members of some church, and the opportunity of worshipping in their own church, if not a sine qua non of their remaining in the asylum, removes a very important objection to such a connection.

We conclude in the words of an eminent author:*

* Dr. Falret.

"It is only in the vicinity of a large city, that we can find all the desirable advantages: from it the asylum can easily purchase all the necessary materials and provisions. A large city too contains infinite resources; there can be found the most distinguished physicians, the most intelligent attendants; social and scientific relations indispensable to cultivated minds, and recreations and amusements of all kinds. Therefore we should prefer to have an asylum near a large city."

Curability of the Insane.—In a perfect state of things, where the best appliances, which the science and skill of the age have provided for healing, are offered to the lunatics in as early a stage of their malady as they are to those who are attacked with fever or dysentery, probably eighty and possibly ninety per cent. would be restored, and only twenty or perhaps ten per cent. would be left among the constant insane population.—*Dr. Jarvis.*

COMPARATIVE COST OF SUPPORT OF THE INSANE AND THE SANE.

We have just received a Memorial addressed by the Trustees of the Worcester Lunatic Hospital to the Honorable Senate and House of Representatives of Massachusetts, representing that the sum allowed by the Commonwealth for the payment of the board and care of the State paupers in the hospital is much less than the actual cost.* The author is Dr. Edward Jarvis of Dorchester. Dr. Jarvis is not only an eminent authority upon whatever relates to insanity, but as a Statistician he has no superior.

* The law, as it now stands, allows $2.75 per week for the support of these patients, while the actual cost, at the present time, is $3.77.

The following extracts from the Memorial are not only highly instructive, but they afford the strongest corroboration of certain arguments brought forward in our paper on the Willard Asylum.

The Insane Cost More for Support than the Sane.—The management of the insane is necessarily different from, and more expensive than, that of the sane. The architectural arrangement of the lunatic hospital is very unlike that of a common dwelling, or any other public institution, and its walls, partitions, windows and doors, must be much stronger. The managers and the guardians, the officers and attendants, must be men of great discretion, sagacity and patience, who would earn large wages elsewhere, and can only be obtained and retained by larger rewards than are paid to those who attend on, and do the work of, healthy men and women abroad.

There is a similar difference in the cost of the food of the mentally healthy and disordered. In all the most common forms of insanity, mania, melancholia and dementia, the patients need a more digestible and nutritious diet, than men and women in health. Their malady, their excitements, and their depressions increase the necessity that they should have food that is easily dissolved in the stomach, and converted into living flesh by the nutrient arteries. They need nourishment, not only of better quality, but oftentimes more abundant in quantity, to meet the excessive and morbid expenditure of force by the maniac in his excitements, and to save the melancholic and those who are tending to dementia from sinking under their depressions into torpidity, and if possible to raise the demented out of their sluggishness. Regarding the necessities of lunatics, familiar with their dangers, and desiring to fulfil the purposes of a hospital by restoring as many as possible to health, and saving as many as possible from sinking into mental death, the managers of these institutions everywhere feed their patients better, and at a greater cost, than sane men and women are fed abroad.

In England, under the supervision of the county and borough magistrates, and the guardians of the poor, who administer the funds intrusted to them with the greatest economy, the average cost of supporting the insane paupers, for food, clothing, attendance and management in the public asylums, is more than three times as great as that of supporting the sane paupers in the work-houses. In Ireland, the

cost of sustaining the insane poor in the asylums was almost three and a half times as great as that of the sane paupers in the workhouses. A similar, though smaller, difference is made here. The average cost of the town and city paupers in almshouses, in Massachusetts, is about one-half of that of supporting the insane paupers in the hospitals; and the cost of the support of the State paupers in the State almshouses is in still smaller proportion. The cost of supporting the inmates in the workhouse, in the city of New York, is less than one-half of that of the inmates of the city lunatic asylum. The average cost of the sane paupers in the county poor-houses, through the State of New York, was eighty-six cents a week, while the cost of the insane paupers in the State asylum, was three dollars and forty cents, in the five years from 1858 to 1862. Universally, as far as the records have been printed and obtained, the managers of the insane have obeyed this pathological law, and yielded to the necessity of giving their patients a better, and, of course, a more costly sustenance and care, than are needed for the support of sane men and women, in order to restore them to health, or to save them from sinking into dementia and permanent disease, or early death.

In obedience to the same law of the disease which they were appointed to treat, and in accordance with the manifest design of the Commonwealth, and the calls of humanity, as well as of economy, to give every patient the best chance of restoration to the enjoyment of life, and the power of self-sustenance, if he or she were curable by any human means, to keep the excitable in their calmest condition, to rescue those who were in danger of or were tending downward to dementia, from that state of mental torpidity, and to save the demented from absolute mental death, the managers of this hospital have employed discreet and intelligent attendants, and provided and prepared nutritious and digestible food, which, though somewhat more costly than inferior guardians and poorer food would have been, have yet been profitable to the patients, and, through them, to their families and the State.

Regarding the earnest suggestions of some members of the legislature in 1863, the Trustees requested the Superintendent to try the experiment of a poorer and a cheaper diet for the State paupers, and to give them a sustenance something like that allowed at the State almshouses. The experiment was tried faithfully for several months, and the daily condition of the patients carefully watched. But the

result as a matter of economy was unfavorable. The patients were more irritable and discontented, the excitable were less easily controlled, the languid drooped more, the torpid were more indisposed to action, the wards of the maniacal patients were more noisy and those of the demented made less show of life, and all the insane propensities and proclivities seemed to gather new force and to be less manageable in the hands of the officers and attendants, the curable made less progress and the incurable were more intensely disordered.

What ever might have been gained in the diminished cost of food, was manifestly more than lost in the slower progress of recovery, in the prolonged duration of the mental disorder, and in the probable failure of some to regain their health who might have been restored, if allowed to enjoy that better diet which the necessities of their morbid condition required.

The experiment was given up as a failure. The usual generous diet was again given to these patients, and they soon began to show its effects in their improved condition and better progress.

Cost of Boarding Sane Persons out of a Hospital.—In order to compare the cost of supporting the insane, with their peculiar liabilities and necessities, with the cost of supporting sane persons of similar classes elsewhere, your memorialists have made inquiry, through discreet and trustworthy agents, and ascertained the prices charged and paid, both at the present time and three years ago, before the cost of the materials of living had advanced, in all classes of cities and towns, throughout the Commonwealth, for board, lodging and washing, of several classes of persons.

1. Irish laborers boarding with Irishmen—the lowest and cheapest board.

2. Journeymen mechanics, who want a better and more comfortable manner of living.

3. Clerks, teachers, overseers, who look for and enjoy a more elegant style of life.

The following table shows the result of this inquiry:

PLACE.	Autumn, 1864.	1860-1.	Autumn, 1864.	1860-1.	Autumn, 1864.	1860-1.	Autumn, 1864.	1860-1.
Hoosac Tunnel,	$3.50@$4.00							
Williamstown,	3 50		$4 00		$4.00@$6.00*b*			
Pittsfield,	4 00	$2 50	5 00	$3 00	12 00	$8 00		
Great Barrington,	4.20@4.50	3.00@3.75	5.00@6.00	4.00@4.50	7 00	5 00		
Greenfield,	3 50		4.50@5.00		5.00@6.00			
Northampton,	2 75	1 75	4 50	3 50	7 50	5 50		
Springfield,	3 00*a*	2 50*a*	7.00@7.50	4 00	7.00@7.50	4 00	$3 50*c*	$2 25*c*
West Springfield,			3 50	2 50	4 00	3 00		
Barre,	3.00@3.25	1.75@2.25	3.25@3.75	2.00@2.50	4.00@4.50	2.75@3.25	3.00@3.50*d*	1.75@2.25*d*
Fitchburg,	4 00	2.25@2.50	4 50	3 00	4.50@6.00	3 00		
Leominster,	4 00	2 75	4 00	2 75	5 00	3 00		
Lancaster,	3 00	2 50	4 00	3 00	8.00@10.00	7 00		
Clinton,	3 00	2 50	4 00	3 00	5.00@5.50	3.50@4.00		
Worcester,	4 00		4.00@5.00		5.00@6.00			
"	4 12	2 75	4 50	3 00	4.50@5.25	3.00@3.50		
Milford,	3 50	2.00@2.50	4.00@4.50	3.50@4.00	5.00@5.50	3.50@4.00	3.75@4.00*e*	3.00@3.50*e*
Groton,	3.50@4.66		6 00		5 00*a*		4.50@5.00*f*	
Lowell,	2 75	2 00	3 25	2 25	3 75	2 75	3 75*g*	
Amesbury,							3 50@4.00	
Newburyport,	4 00	2 50	5 00	3 50	6 00*a*	4 50*a*	2.50@2.75*h*	1 50*h*
Salem,	3 50	2.00@2.50	4 00	2.75@3.00	7.00 & over.	5.00@7.00	5 00*i*	2 50*i*
East Cambridge,	4.50@5.00	3 00	5.00@6.00*a*		6.00@9.00	5.00@6.00	4 50*j*	2 50*j*
Boston,	4.00@5.00	2.75@3.33	5.00@6.00	3.33@4.00	5.00@8.00	3.50@6.00	6.00@8.00*k*	4.00@5.33*k*
"	3.50@4.00	2.00@3.00	4.50@7.00	3.00@4.00	5.00@7.00	3 50	7 00	3.50@5.00
"	4 00	2 75	4 50	3 00	7.00@8.00	6 00	7 00	4 00
Dorchester,	4.50@5.00	3.00@3.50	5.00@7.00	3.00@5.00	7.00@8.00	5.00@7.00		
Milton,	4.50@5.00	3 00	4.75@5.00	3 00	7.00@8.00	6 00	4.00@4.25*l*	2.75@3.00*l*
Quincy,			5 00	3.00@3.50				
Randolph,	4 75	2 50	4 00	2 75	5 00	3 50		
New Bedford,	3.50@4.00	2.00@2.50	4.50@5.00	3 00	6 00	3.50@4.00	4.00@5.00*k*	3 00*k*
Fall River,	4.25@4.75	2.25@2.75	4.50@5.00	3.00@3.50	5.50@6.00	4.00@5.00		
Westfield,	3 50	2 00	4 50	3 00	5 00		3 00*c*	2 00*c*
Waltham,	3 75	2 25	4.00@4.50	2 50	5.00@5.50	3 00	2 50	1 50
Dedham,	3 50	2 00	4 50	2.75@3.00	5.00@6.00	3.00@4.00		
Average of all,	$3 87	$2 51	$4 77	$3 19	$6 08	$4 41		

a Without washing.
b Table only.
c Female operatives.
d Female Palmleaf Workers.
e Irish Mechanics.
f Academy Scholars, without washing.
g Operatives.
h Female Operatives, without washing.
i Normal School Girls, without washing.
j Female Teachers, without washing.
k Sailors.
l School Teachers, Females.

The competition of boarding-houses brings their prices down to the lowest living rate. Their keepers usually charge very little beyond the cost of the materials consumed, the rent and a fair reward for labor.

The hospital pays no rent directly. This is not known in its articles of expenditure. Yet it makes all the repairs, all the renewals of furniture, stock and materials that decay or are worn out, and nearly all the improvements at its own cost. The cost of these, being divided among the household, would be equal to about half the amount for each that is paid for rent in ordinary boarding-houses. With this exception, the low or half rent, the hospital buys and offers to its boarders all that is provided for the inmates of boarding-houses elsewhere. To this comparative expenditure, must be added the greater cost for a larger quantity and superior quality of food, the large and intelligent and costly corps of attendants, which are not needed in boarding-houses, and physician and superintendence, which are not supplied to boarders in ordinary life, without large cost.

It cannot then be supposed that these means of living, of protection, nursing, watching, professional attendance, can be obtained and given to the insane residents in the hospital for the same cost that mere food, lodging and washing, are provided for in the cheapest boarding-houses; still less can they be provided at a lower cost. On the contrary, they inevitably cost more than the materials and labor that boarders usually receive and enjoy, in the families out of the hospital.

Yet in only two of the towns, in which the inquiry was made, did even Irish laborers obtain their board for as small a price as the Commonwealth offers for the board, care and healing of its paupers, in the hospital. Except in these two towns, the charge was universally more than $2.75 a week, and in most of the towns it was very much more, and the average of all, was $3.87 a week, which is forty per cent. higher than the State payments for the whole support and professional treatment of its insane wards.

The board of journeymen mechanics, is in all cases higher. The lowest is eighteen per cent. higher. The highest is one hundred and seventy-two per cent. more, and the average of all is seventy-three per cent. more than is paid by the State.

It should be farther stated that most of these inquiries were made in September and October last, since which time there has been a still

farther advance in the prices of provisions, which must have caused a corresponding increase in the charges of these boarding-houses for the board of their inmates.

PHYSICIAN IN CHIEF OF AN ASYLUM.

We deem it particularly essential at this time that the principles involved in the superintendence of asylums for the insane should be properly understood. The necessity that the authority should be single and supreme in such establishments is recognized by all "masters of the science." The occasion is a fitting one for reproducing the arguments advanced in support of this arrangement, and for this purpose we shall quote from the writings of three distinguished alienists.

In a letter from the late James Macdonald, M. D., (formerly Superintendent of the Bloomingdale Asylum) proposing a plan for organizing the New York State Lunatic Asylum, and addressed to the Hon. David Russell, President of the Board of Trustees,* Dr. Macdonald expresses these views:

> As the supreme object of the institution, to which everything in its construction and government directly or indirectly tends, is the improvement and recovery of the insane; I propose that the *physician in chief*, who may also have the title of DIRECTOR, shall be its first officer, the *head*, in name and in fact, of the whole establishment, so that all other officers, under the board of the trustees, shall be subordinate. The physician and director should be the mainspring of the whole machine, the master spirit of the entire institution. As he is to exercise such high functions and to originate and direct the treatment, medical, moral, physical and dietetic of a thousand insane minds, he should be held responsible for the results, at the same time that he should be invested with sufficient authority for the execution

* Report of Trustees of the State Lunatic Asylum, with the documents accompanying the same, pursuant to the Act of the Legislature, passed May 26, 1841.

of his plans. He should have power to hire or dismiss all subordinate persons in the employ of the institution; and all superior officers should be so far under his control as to receive instructions from him.

The adoption of this part of the plan will prevent a division of interests, and keep one part of the household from arraying itself against the other, and if properly used will make everything tend to one point, the comfort and restoration of the insane. If it confer upon one individual increased authority, it imposes additional obligations. His direct responsibility for the welfare of the institution and the conduct of its other officers must check any abuse of power.

I would not say more on this subject, if it had not been the practice in some asylums to place the physician on a footing with and even subordinate to other officers. Happily, however, this anomaly is vanishing before the progress of sound principles, but to sustain the position here laid down, I beg leave to quote the highest authorities of Europe. Pinel, one of the most illustrious names of France, in medicine and philanthropy, says: "Whatever may be the principles on which an asylum is conducted, whatever modification it may receive from time, locality, and different forms of government, the physician, by the nature of his studies, the extent of his knowledge, and the strong interest which he has in the success of treatment must be so well informed as to be the natural judge of everything that passes in a hospital for the insane." Jacobi, the experienced and distinguished physician of the large asylum at Sieburg, in Germany, says: "As every operation in this department, also (that of steward) must concur with the rest in promoting the ultimate object of the establishment, and as the most perfect unity of purpose and unimpeded activity must everywhere characterize all the exertions made to this end, so it is here again evident that the supreme direction and control of all the officers and servants without exception employed in this department, must likewise be concentrated in the directing physician." Esquirol, the highest authority of the age in which he lived, says: "The physician should in some manner be the vital principle of an insane asylum; it is by him that everything must be put in motion; called as he is to be the regulator of all thoughts, he directs all actions. Everything which interests the inmates of the establishment points to him as the centre of action. The physician should be invested with an authority from which no person can escape."

Such then being the high responsibilities of a physician to a lunatic

asylum, he should be carefully relieved from every duty calculated to direct his mind from its legitimate objects of pursuit. He should not be burdened by any financial responsibilities; should have no concern in the purchase of supplies, except to indicate such as may be requisite; should not for a moment be wearied with their distribution, and in fine, should not have his attention diverted by anything from the high duties of his office. To supervise in the most cursory manner the material part of the establishment, to devise methods for the comfort and improvement of a thousand human beings deprived of the ability to take care of themselves, to observe minutely and treat medicinally such of the number as may be proper subjects for medical treatment, to adapt occupation, amusement and moral discipline to all, will require on the part of the physician and director the greatest industry and system. But the duties of the physician to a lunatic asylum do not end with the performance of his daily visits; he has also professional duties to discharge. Placed in an extended field of observation, he can collect facts which may be of immense service to his medical brethren. In the performance of these varied and important functions, it is evident that he must have the aid of efficient medical assistants.

In a report on the Organization of a Lunatic Asylum, prepared for the information of the Prefect of the Department of the Seine, the author, Dr. Renaudin, remarks: *

Masters of the science have always agreed on laying down the principle that the administration of an asylum should be essentially medical; and that, consequently, a physician must be the sole governor of that colony of which the members, become foreign bodies in society, are called to constitute a society *sui generis*, into which each brings the contingent of his previous aptitudes (antecedent dispositions.) It is the medical judgment which directs these dispositions, and from the moment when the physician confines the potentiality of direction to himself, he cannot fulfil his high mission except in the condition of being the real head of the medico-administrative service.

To place an institution of this kind under non-medical government would, in my opinion, constitute an anomaly as striking as the appoint-

* Medical Critic and Psychological Journal, Vol. II. page 176.

ment of a priest to the command of a regiment, or of a colonel to the tutorship of a seminary.

In Germany and Italy this truth has long been an axiom. And if, in France, general inspection has given to the service the impulse of which we now prove the excellent results, it is because it has been, and still is, entrusted to eminent alienists, who have *medicalized* administrative science, and have adapted it to the numerous indications of psycho-curative knowledge. Physicians are substituted for the charitable but uninstructed administration of religious communities, and everywhere the direction of the insane has beneficially experienced this important reformation.

If management has been improved by the breath of science, the latter, in its turn, has become much more practical by its connection with administrative forms. In place of being misled by vague theories, the administrative physician (medical director) is in closer proximity to his patients, knows them better, appreciates their wants and forms his deductions from facts well observed rather than from preconceived theories, too often falsified by experience. A mass of arguments demonstrate the truth of this assertion, for it is from medical directors that the most practical and most important works have emanated. Their position has admitted of their separating the romance of the disease from its history. It is they who have best delineated insanity by stripping it of its stage-dress; and if their works have not had much notoriety, it is because these practitioners, exclusively devoted to their duties, are less concerned for the care of their reputation than for the welfare of the invalids who are entrusted to them.

These remarks already foreshow how far the medical service of asylums must differ from that of ordinary hospitals. In the latter, it is a simple episode incident to the existence of the physician; in the former, on the contrary, it absorbs the whole life of the practitioner, who cannot know his patients except by dwelling among them, and whose habitual residence in the establishment is an essential element of that moral hygiene so important at the present day. In like conditions, the administrative functions, instead of being an additional burden, are, on the contrary, a powerful auxiliary of the treatment, if the organization correspond with the fixed requirements of the duty.

Of the personnel of an establishment for the insane, Dr. Henri Falret discourses as follows: *

Everything which concerns the insane being intimately connected, all the measures which the administration may take being of a nature to influence the morals of the patients, all the circumstances by which they are surrounded constituting an essential part of the moral treatment, there can not be, in an establishment for them, without serious inconvenience, any other authority than that of the physician.

Thus, in leaving to the minister of the interior the right of separating the administrative and medical powers, and of appointing the superintendents and the physicians; the law of 1838, otherwise, taken as a whole, so eminently useful, has, in this respect, been very injurious to asylums for the insane.

Notwithstanding the evil consequences of this separation of power, which has become a source of continued conflict and struggle, the authority has none the less persevered in separating that which admits of no separation, and even lately, we have noticed the appointment of a superintendent over the establishment of Fains, where, hitherto, the two powers had been united in the hands of the physician. It is with a great deal of pain, that we have seen in a recent decree, which threatens to be so fatal to asylums, that the government not only endorses anew this principle, but even assigns an inferior situation to the physician, in leaving to the prefect the power of appointing him, and reserving all rights to the superintendent.

If all those employed, without exception, are not under the control of the physician in all that concerns the establishment, there can be no unity of purpose, and without unity, it is impossible to establish a durable and beneficial organization; if the persons employed are not convinced of the supreme authority of the physician, if they recognize a rival or superior power, their concurrence will be weak and vascillating, their conduct ever wrong, the order of the establishment constantly compromised; and in the midst of this division of power, the insane will want the direction and advice so indispensable to them, and will find means of evading the prescriptions of the physician or the different regulations, instead of refraining from their propensities, and exercising a salutary control over themselves.

We have only to examine what takes place in French asylums,

* Journal of Insanity, p. 422.

where the physician is not the superintendent, to be convinced of the necessity of uniting all power in the hands of a superintending physician; the nature of things, still more than individual character, gives rise to continual conflicts and quarrels between the physician and the superintendent, which terminate ordinarily in the removal of one or the other, the same trouble soon to recur with similar results.

In Germany, the two powers are united in the physician, the happy effects of which are continually visible. Why should it not be the same in France? Why should some asylums still have a superintendent and a physician, while others have already a superintending physician?

It is asserted that if the duties of the principal physician and superintendent are united in the same person, the superintendents are liable to be inferior, or the physicians but little versed in the theory or practice of their art. It is also said that this system may be applicable to small, but would not be for large establishments, because too great an amount of labor would be intrusted to one individual. All these objections are not serious; if one can not be at the same time a good administrator and a good physician, why should the direction of some asylums be entrusted to physicians?

To be consistent, then, it would be necessary to suppress completely superintending physicians. But how do the Germans manage, who have at the head of their establishments physicians so distinguished as Roller, Jacobi, Damerow, Flemming, etc., who are at the same time excellent superintendents?

As to the extent of work, it is easy to remedy this, by giving to the chief physician subordinate auxiliaries; unity of direction is thus left to him, and the difficulty of having his commands executed, removed.

Provincial Lunatic Asylum, Toronto, C. W.—The original plan of this asylum contemplated a centre building, two front wings and two parallel receding wings. On the completion of the central edifice and the front wings, the building was thought to be large enough for the wants of the Province, and the work was suspended. A short time, however, sufficed to show the need of further accommodation for the insane; and to meet this want

Dr. Workman, the Medical Superintendent, has never failed to urge the completion of the building. Instead of listening to the Doctor's appeals, supported as they were by unanswerable arguments, the authorities adopted the miserable expedient of separate establishments for the incurable. Some abandoned wooden "barracks" and an hotel "on a grand scale," originally intended for a summer resort, buildings totally unfitted for the purposes, were metamorphosed into asylums. In this action of the Canadian Government we have a good example of that specious utilitarianism which always looks to primary outlay, and which draws its inspiration from the deep philosophy epitomized in "penny wise and pound foolish." But experience is the best teacher for governments as well as individuals. The Canadian authorities have been brought, at last, to see the error of their ways, and the folly of a makeshift policy. Dr. Workman is now authorized to proceed, at once, with the completion of the Provincial Asylum at Toronto. To our mind this action of the Colonial Government is a virtual condemnation and renunciation of the policy of separate establishments for the incurable.

We heartily congratulate Dr. Workman upon the final success of a project for which he has most zealously labored for many years, and we trust that the liberality of his government will enable him to apply those modern improvements in asylum construction which he so fully appreciates and is so competent to introduce; particularly, the great sanitary appliance of forced ventilation, by means of a fan, by which, irrespective of atmospheric conditions, each patient may be supplied with a known and abundant quantity of fresh air at a properly regulated temperature.

West Virginia Hospital for the Insane.—We are indebted to Dr. R. Hills for the following statement of the institution of which he is the recently appointed Medical Superintendent:

The building, when completed, will have accommodations for two hundred and fifty patients. Its entire length will be twelve hundred and fifty feet. Its cost about $450,000, of which $150,000 have already been expended. One wing of two hundred and fifty feet is finished, and is now occupied by forty patients. The basement of the whole building is completed, and also the first story of the main edifice from the centre to the finished wing. During the present year the work has been restricted chiefly to out buildings, boiler-house, laundry, barn and ice-house. Next year it is proposed to complete the main building and one-half of the centre. For this purpose an appropriation of $100,000 will be required. Dr. Hills writes: "We have been filled since early in the spring, and nearly all applications are necessarily declined. Of these there are many; besides which there are over one hundred West Virginia patients in the asylum at Staunton, and some thirty or forty at Williamsburg, all of which will be admitted here when we have the room for them. The building is of cut free stone, a beautiful greenish blue color—Elizabethan style of architecture, first story 'rustic,' upper stories ashlar."

As journalists advocating, as we believe, the real interests of the insane, we enter our protest against the extravagance just recorded. Here is a State, young and enterprising, it is true, and with great resources for the future, but with a population of less than 400,000, and just emerging from the perturbation and despoilment incident to a state of civil war—expending in a hospital for its

insane nearly double the amount, per patient, allowed by the most liberal estimates for first class institutions in Europe and America. Such instances of prodigality furnish the tax payer and legislator with a powerful argument against the erection of new asylums. The argument, however, is not valid, because such extravagance is entirely unwarranted, and should be discarded. We trust it is not yet too late for the new State of West Virginia to reform her asylum programme, and to substitute in place of her present policy, *juste milieu* equally removed from unthrifty squandering on the one hand and shabby parsimony on the other.

We may, in passing, call attention to the curious fact that the Medical Superintendent of an asylum designed for 250 patients, and which is to cost $450,000, is one of the only two gentlemen found bold enough, at the last meeting of the Association, to defend and urge the establishment of *cheap* institutions for *pauper* incurables.

Railway Travelling a Cause of Disease.—The influence of railway travelling on cerebral, spinal, nervous and ophthalmic diseases, is assuming an interesting shape in the public mind of Europe; so much so that committees, consisting of professional men occupying the highest positions in science, have been appointed to investigate the subject. In England, such a commission was formed to determine the influence of this mode of travel on health, but the evidence *pro et con.* is without conclusive results. Some observing that persons accustomed to daily and constant travelling in rail coaches grew rapidly old, drew the conclusion that it was productive of injury; while others noting mortality statistics showing that the mortality of post-office employees on railway cars was not greater than that among the same class stationed in the offices of cities, infer that it is not antagonistic to life.

The comparison, it will at once be seen, is incorrect, for it cannot be a question whether confinement in closed offices is injurious and tends to lessen the life actions, compared with that allowing a certain

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insane nearly double the amount, per patient, allowed by the most liberal estimates for first class institutions in Europe and America. Such instances of prodigality furnish the tax payer and legislator with a powerful argument against the erection of new asylums. The argument, however, is not valid, because such extravagance is entirely unwarranted, and should be discarded. We trust it is not yet too late for the new State of West Virginia to reform her asylum programme, and to substitute in place of her present policy, *juste milieu* equally removed from unthrifty squandering on the one hand and shabby parsimony on the other.

We may, in passing, call attention to the curious fact that the Medical Superintendent of an asylum designed for 250 patients, and which is to cost $450,000, is one of the only two gentlemen found bold enough, at the last meeting of the Association, to defend and urge the establishment of *cheap* institutions for *pauper* incurables.

Railway Travelling a Cause of Disease.—The influence of railway travelling on cerebral, spinal, nervous and ophthalmic diseases, is assuming an interesting shape in the public mind of Europe; so much so that committees, consisting of professional men occupying the highest positions in science, have been appointed to investigate the subject. In England, such a commission was formed to determine the influence of this mode of travel on health, but the evidence *pro et con.* is without conclusive results. Some observing that persons accustomed to daily and constant travelling in rail coaches grew rapidly old, drew the conclusion that it was productive of injury; while others noting mortality statistics showing that the mortality of post-office employees on railway cars was not greater than that among the same class stationed in the offices of cities, infer that it is not antagonistic to life.

The comparison, it will at once be seen, is incorrect, for it cannot be a question whether confinement in closed offices is injurious and tends to lessen the life actions, compared with that allowing a certain

amount of out-door exercise. Free air and exercise are essential to life. The question is, whether the habit of travelling in closed coaches, with the constant effort of the muscles to break the shock of the sudden and abrupt vibrations of the cars, and the rapid passage of objects before the visual organs, has a tendency to derange function and alter structure.

Is railway travelling prejudicial to health? The evidence is somewhat conflicting. Dr. Lewis, a medical officer of high standing, presents a large number of cases showing that continuous and extensive travelling in this way does not affirm the question. He arrives at the following conclusions:

1. That well-developed and robust persons do not suffer injury if reasonable care be observed in their habits, and if the amount of travel is not extreme.

2. That railway travel has a greater injurious action on persons who enter upon this mode of travelling after the age of twenty-five, than upon those who commence it earlier in life.

3. Persons loosely formed, who are affected with disease of the head, heart or lungs, suffer most.

In regard to its ill effects on the visual organs, Mr. Cooper and others consider its action very great; while Dr. Lewis esteems it of slight importance. *A priori*, it may be admitted as a fact that reading while a coach is in motion, or placing the eye upon an unsteady and swiftly-passing object, causes an inordinate effort of the organ, and a consequent diminution of power.

Its influence on the respiratory organs is a matter of no small importance when we consider the evil consequences of the *impure air* of a densely crowded coach, and the sudden change of temperature caused by opening windows when the train is in motion. Experiments made by Dr. Angus Smith show that the air of a crowded car corresponds to the air of his laboratory when a sewer was allowed to pass through it. This great impurity produces a necessity for an increased amount of air to enter the lungs to furnish the normal supply of oxygen. This action causes excessive effort and increased exhalation from the cutaneous surface, which, upon exposure to a current of cold air, is checked, resulting in bronchial and respiratory diseases.

The most serious and frequent effects are, however, upon the nervous and muscular systems. The constant effort, during a long journey, against the abrupt and often extreme change of positions, throws upon these systems abnormal activity. The result is weari-

ness, pain and soreness for days after the effort, and a sensation of unsteadiness even amounting to sea-sickness. This abnormal action, though it may be quiescent in its action for a time, at last induces alteration of structure, sometimes ending in paralysis.

The rapid age in which we live, appears to be specially characterized by its utilitarian system at the cost of what is useful and good. Economy of time, of thought and of money, is apparently essential to successful competition, and brings upon us a commensurate expenditure of comfort, health and life.

The present mode of travel is a commercial economy, but the old-time way, while certainly slower, was perhaps not less certainly a real economy of time. The fashions of life appear to quadrate its longevity and influence.—*St. Louis Med. and Surg. Journal.*

Use of Ergot in Chorea.—Dr. Jacobi related the following case he had recently treated: A girl 10 years old, had been under his care for pneumonia, and afterwards for bronchitis, but has, during the past year, been healthy. Five weeks ago she was brought to him, suffering with intense chorea, not being able to walk or sleep, and hardly to swallow, and with no cessation in the movements during sleep. She was feverish, with hot skin, thirst, rapid pulse, etc. The spine was examined and no excessive sensitiveness was detected in the lumbar or lower dorsal regions; but over the first dorsal vertebra, and increasing in severity on ascending the cervical region, there was tenderness. The chorea being due to irritation of the spinal cord and cerebellum, the cervical region was leeched, and ice applied for three or four days, when the girl began to improve. The ice was now continued for a week longer, and a strong purgative given with marked benefit. Afterwards, as the Doctor has seen good effects from ergot in spinal meningitis, he administered it in this case and in large doses. At first, half an ounce of Squibb's fluid extract was taken daily, in combination with sulphate of soda, and latterly but two drachms, with ten grains of quinine per day, continued for two weeks. The girl is greatly improved, being able to walk with assistance, and to eat and talk. Dr. Jacobi remarked, that the majority of cases of chorea occur in girls between 6 and 11 years of age, and that it is generally impossible to trace the symptoms to any local affections, except to rheumatic disease of the heart. If no rheumatic or cardiac trouble can be found, the spine and cerebellum are examined, but generally with like result.

Dr. Gonzalez Echeverria stated that he had seen a case in which there was pain in the cervical region of the spine, with most violent choreic convulsions. The patient died, and, on post-mortem examination, apoplexy in the spinal-gray substance of the cervical region of the cord was found. (The history of this case has been reported in detail in the April number of this Journal.) The Doctor also related a case of chorea, mostly located in the right limbs, in a pregnant woman he had seen in consultation with Dr. W. H. Van Buren. The disease was preceded by sudden hemiplegia, occurred upon protracted lactation, but which nearly subsided, until the development of the choreic convulsions at the beginning of gestation. The sensibility of the limbs was evidently diminished, and the patient showed a tendency to cerebral congestion, which made once necessary the application of leeches to the back of the ears. The urine contained no casts, once or twice was slightly albuminous, but kept throughout its normal condition, with the exception of an increased quantity of phosphates. The state of the patient continuing to be alarming, and appearing to depend in a great degree on gestation, premature labor had to be induced at about the eighth month. This operation was skilfully carried through by Dr. George T. Elliot. The nervous symptoms did not, however, materially abate. The patient was then put upon the use of ten grains of bromide of potassium, three times a day; the remedy was soon discontinued on account of pain in the stomach, which the patient attributed to it. She was then directed to use ergotine gr. j., with quinine grs. ij., twice a day, and to resume the bromide of pot. mixed with the tr. rhei., and carbonate of ammonia. Under this treatment she decidedly improved: the ergotine was carried up to grs. xij. a day, and then discontinued, but the bromide of potassium has been kept up to the dose of thirty grains, three times a day, with the carbonate of ammonia, and half an ounce of the infusion of calumbo. Cold bathing, application of ice to the spine, and the localized movement cure, were employed in addition to the above means. Uterine disease having been suspected all along, the patient at last consented to be examined with the speculum. Besides retroversion, a large ulcer of the neck and enlargement of the womb were found, together with leucorrhœa and the dysmenorrhœa already complained of by the patient. A local treatment has been instituted for these latter symptoms, and the patient's improvement has continued beyond the stationary point it seemed to reach with the above means. Let me add, that the child, now over a year,

has grown very robust, and to this date free from any nervous derangement. It is true, that in this case ergot was not the only remedy employed, but I have used it mainly in other cases of chorea, with similar good results to those mentioned by Dr. Jacobi. I generally prescribe the Aq. extract of ergot, or Bonjean's ergotine, in the shape of pills, combined with quinine and the extract of conium added, to prevent the pain which ergotine is apt to cause on the digestive organs. The largest doses of ergotine I have prescribed have been from eight to fifteen grains a day, the latter dose having been employed with adults.—*New York Medical Journal.*

Amenorrhœa.—The history of ovulation has supplied M. Raciborski with a new field of inquiry, which he has laboriously cultivated, and in which he has succeeded in discovering new physiological aspects unknown to, or at least not described by, his predecessors. Amongst other interesting subjects, he expatiates on a form of amenorrhœa due to mental causes, such as excessive dread of pregnancy, or, on the contrary, an inordinate desire of bearing children. (Archives de Médicine, May, 1865.)

In the male mental preoccupation greatly influences the procreative function. Montaigne, in his remarks on the power of imagination, relates an instance of transient sexual incompetency, of which, in all probability, he had himself been the subject. Incapacity of this kind is of frequent occurrence, and inspires no anger to a sensible wife, aware that kindness will prove far more successful in restoring power than bitter reproach and offensive expressions of scorn. The physiological explanation of this unsatisfactory condition is simple. In consequence of the apprehension of failure, the mental frigidity is conveyed by the sympathetic system of nerves from the brain to the organs of generation, and the result is an entire cessation of their powers of expansion. Under the influence of the vaso-motor nerves, the blood vessels of these organs contract, the temperature of the part is lowered, and a condition ensues in which sexual access becomes impracticable.

M. Raciborski, arguing from analysis, opines that the excessive dread of pregnancy, or the immoderate desire of bearing children, act on the female in a somewhat similar manner, and may induce more or less delay in the appearance of the catamenia, and even a protracted state of amenorrhœa.

This author was consulted on several occasions by women who,

after a long struggle, had yielded to their feelings and forgotten their virtuous resolutions. Alarmed at the possible consequences of their imprudence, and living in perpetual terror of pregnancy, they impatiently counted the days which must intervene before the return of the menses, and anxiously watching for the usual premonitory symptoms, awaited in a state of most distressing perplexity the time at which their worst fears might be allayed or confirmed. In a case of this kind, a lady, usually perfectly regular, was thrown by a delay of one week into a state bordering on insanity. The treatment adopted by M. Raciborski consisted in arguments calculated to remove her fears, to which he mainly attributed the alarming postponement of the catamenia, and in the exhibition of harmless remedies. He prescribed gentle anodynes, and the mildest form of stimulants, such as a few drops of liq. ammon. acetatis in lime-flower, or black-currant tea, and mustard foot-baths. After an interval of two days, the menses reäppeared, and the delighted patient solemnly declared that the lesson would never be forgotten.

On the other hand, M. Raciborski asserts that too ardent a wish for children may also act in a reflex manner on the vaso-motor nerves of the ovaries, and induces amenorrhœa.

"In young married women," says he, "it is not unusual to observe at several successive monthly periods a delay of a few days before at last they become really pregnant. These delays are, in a certain degree, referable to a strong desire to have a family. When, however, several months have elapsed without any sign of this much wished for result, the anxiety on the subject often becomes excessive; and constantly preöccupied with one idea, that she may be sterile, the young wife feels happy when, at the return of the date at which the menses may be expected, she experiences none of her customary symptoms; she hopes that the catamenia may fail, and that at last she is pregnant. At each monthly period she is agitated by the same hopes, and, to avoid a disappointment, submits to all manner of precautions. Between this kind of amenorrhœa and that we have previously described, a considerable difference exists. In the former, when the patient dreads pregnancy, every effort is made by her to bring on menstruation, which, in general, reäppears in the course of a few days. In the latter, on the contrary, all the precautions taken to prevent the frustration of cherished hopes, the absolute repose joyfully submitted to, the complete abstinence from any cause of mental or physical excitement, all contribute to perpetuate the modified con-

dition of the ovarian circulation, and to protract the duration of the amenorrhœa. The greater number of the cases of what has been termed *Grossesses nerveuses*, recorded by various authors, have no other origin, and are almost invariably instances of protracted amenorrhœa referable to this cause."

M. Raciborski relates an interesting case in point; but his remarks on the variety of amenorrhœa *due to the apprehension of pregnancy* appear to us original, and deserving of the attention of the practitioner.—*Medical Circular.*

Cerebral Agenesia.—Dr. Peebles mentioned (January 14,) at a meeting of the Dublin Pathological Society that the case which he had the honor to bring under the notice of the society was one of cerebral agenesia. It had excited some interest at the other side of the Channel, where he believed a true diagnosis of it had not been made. He was happy to say that a distinguished member of the society—Professor Law—was the first who stated its real nature. The subject was a girl aged nine years and ten months. Up to the age of eleven months, she was considered to be remarkably healthy and well formed, and presented no appearance of paralysis. About this time a general practitioner prescribed low diet, with small doses of grey powder, for a feverish attack accompanying dentition. Soon after, for a slight cold, he directed tartar-emetic, and also two leeches to be placed on the dorsum of the foot. The low diet to be continued, and the leech-bites to be sponged with warm water to encourage bleeding. The attendants found it impossible to arrest the hemorrhage, and convulsions, followed by coma, were the result. Further advice was obtained, and then the head and spine were blistered. At this time the parents of the child, who had been from home, returned, and succeeded in getting some beef-tea, etc., into the stomach. Reanimation slowly returned, but it was found that all power of voluntary motion was absent. In the course of a year the left side recovered, but the right continued paralyzed. There was some difference in the thickness of the limbs, but none in the length. She now began to walk, dragging the right leg; and from want of power in the side met with several severe falls, the head generally coming to the ground with violence. On one occasion she fell out of bed head foremost; this was followed by epilepsy, which continued up to her death. At first the fits came on every ten minutes during the twenty-four hours. Afterwards they decreased in number, but

after a long struggle, had yielded to their feelings and forgotten their virtuous resolutions. Alarmed at the possible consequences of their imprudence, and living in perpetual terror of pregnancy, they impatiently counted the days which must intervene before the return of the menses, and anxiously watching for the usual premonitory symptoms, awaited in a state of most distressing perplexity the time at which their worst fears might be allayed or confirmed. In a case of this kind, a lady, usually perfectly regular, was thrown by a delay of one week into a state bordering on insanity. The treatment adopted by M. Raciborski consisted in arguments calculated to remove her fears, to which he mainly attributed the alarming postponement of the catamenia, and in the exhibition of harmless remedies. He prescribed gentle anodynes, and the mildest form of stimulants, such as a few drops of liq. ammon. acetatis in lime-flower, or black-currant tea, and mustard foot-baths. After an interval of two days, the menses reäppeared, and the delighted patient solemnly declared that the lesson would never be forgotten.

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increased in violence. The approach of a fit could be predicted by the development of mischievous propensities—a tendency to torment animals, or to strike people when they least expected it, and by considerable cunning. There was no scream before the fit. She always gave notice when it was coming on. The tongue was never bitten. There was a discharge of fetid perspiration, and seldom any dulness or drowsiness when the fit subsided. Her mental capacity was of the average; in some matters she was very intelligent, and had made some progress in her education.

She had been seen by various medical men, who attributed her ailment to either the loss of blood causing the development of tubercle in the brain, or to atrophy of the brain from the same cause. At the age of six years the left side again became paralyzed, as well as the right; but under tonic treatment the power over it returned. In last September Professor Law happened to be in the neighborhood of where she was, and expressed a desire to see her. He was at once struck with a slight want of symmetry in the sides of the head, although measurement showed no difference, and pronounced it to be a case of congenital malformation of the left lobe of the cerebrum, similar to those which Professor Smith had brought before the society on several occasions. He (Dr. Peebles) first saw the child about two months ago, when she came under his care. Up to that time she had been able to walk three or four miles in the day with the assistance of a servant to hold her hand. There was no difference in the thickness of the limbs, as she had grown tall and thin, but the heel of the right side was raised from the ground by the contraction of the ham-string muscles. The right arm was kept in the flexed position, with the hand hanging down; but by a strong effort of the will she was able to use it for various purposes. This, however, did not last long, the strength seemed to leave it very soon. There was a peculiar bulging of the right side of the forehead, and the right cheek was drooped.

Although there was considerable power of voluntary motion in the right side, the galvanic stimulus did not appear to have any effect on the muscles, and wasted as they were, their contractive power in a fit was very great.

During the damp weather in November symptoms of inflammation of the membranes came on, quickly followed by those of effusion; but no pain was ever complained of, except a deep-seated one between the eyes.

She lingered for six weeks. Diarrhœa set in, and bed-sores appeared wherever there was the least pressure, even over the left malar bone, where the cheek rested on the pillow.

As Professor Smith is our chief authority on this affection, and as the case differed in some respects from those which he has published, I requested him to make a post-mortem examination. He (Dr. Smith) says: "The right side of the forehead and of the head generally seemed more prominent and bulging than the left. On removing the calvarium, and making an opening through the dura mater, a large quantity of serum flowed out; and on removing the dura mater a layer of recently-formed coagulable lymph was seen covering nearly the entire of the left hemisphere of the brain. A similar material, mixed with serum, filled the sulci between the convolutions of the brain on the left side. The left hemisphere was much smaller than the right, more especially in front, the anterior lobe of the right side projecting at least half an inch in front of that of the left side. On making a vertical section of the left hemisphere a cavity or cyst was found in its substance, capable of holding a filbert. It was filled with serum, and lined by a dark brown membrane. The membranes of the brain adhered closely to that portion of the surface of the hemisphere that corresponded to the cyst. The latter was evidently the consequence of an original arrest of development, as was also the shortness of the left anterior lobe, and the generally small dimensions of the convolutions. The roof of the left orbit was much more prominent, internally, than that of the right, and the crista galli was strangely deformed. It was enlarged and curved in such a manner as to be placed to the left of the middle line, and nearly obliterate altogether the fissure for the passage of the nasal nerve."

This case differs from those which have been published by Professor Smith and others, in the absence of rigidity, and in the degree of voluntary motion in the affected side—in the fact of the cyst or deficiency being in the substance of the brain, and not connected with the ventricle; and in the amount of mental development which was equal to the average of children of the same age. The peculiar appearance of the crista galli closely resembles the delineation in the plates published by Professor Schroeder Van der Kolk of his case of atrophy of the left hemisphere of the brain. The roof of the left orbit was also altered in the same way, but the resemblance goes no further. In his case the calvarium was thickened; in this case it was, if anything, thinner than natural. Measurement showed no differ-

ence in the sides of the skull; the space where the brain was deficient was filled with serum.

There was no appearance in the brain to account for paralysis on the left side. In the first attack the loss of power on that side was evidently the result of great prostration, as it was, most probably at the second attack, for at that time she was exhausted by diarrhœa and hectic fever.—*Dublin Quarterly Journal of Medical Science.*

Infantile Paralysis.—Dr. W. Adams mentioned (March 16,) at a meeting of the Harveian Society of London, that he had frequently had to treat cases of this affection, and that in some instances he had been able to restore the power of locomotion where it had been supposed to have been irretrievably lost. Infantile paralysis came on frequently during teething, at the age of one or two years. Both legs or both arms are paralyzed suddenly or in the course of a few hours, or only one limb may be affected. Sir B. Brodie used to say that unless this paralysis is naturally recovered from in six months, it is hopeless. In three to six months there is usually the greatest amount of recovery, the rectus muscles of the thigh often being last to recover. As to the pathology of the disease, Mr. Adams confessed that he knew nothing of it. The most recent German writers on the subject attribute it entirely to the muscles; and Rilliet and Barthez recorded only two post-mortem examinations. In these, as well as in the one made by Mr. Adams, no appearance could be made out to account for the disease, and children do not die of it. Consequently the cause of it is not investigated. If practitioners were but aware of this fact, they would probably make the necessary examinations. It must be remarked that natural recovery of the muscular powers may progress from six months up to three or four years, during which time a series of events take place—namely, contraction of all the joints. Mr. Wilkinson had lately brought him a child with great contraction of the knee-joints. The muscles around the hip-joints are usually the first to recover. A child was sent him from Clifton, of the age of from six to seven, which had never stood. It had contraction of the joints, arms, legs, and trunk, and Mr. Adams was able to promise the parents of the child that it should walk in three months. Dr. Brown-Séquard had requested Mr. Adams to see a young lady, aged seven years, in consequence of paralysis of both legs, and in three months this child was able to walk with steel supports. If a child could use the psoas and iliacus muscles, it could be

made to walk, and this was the practical test. It should be laid down upon the floor, and if it can draw up its knees, success is certain. With regard to treatment in the early stages, he had known counter-irritation down the spine used, but the chances were that no treatment would do much good. When the child has paralysis with flaccid muscles, rubbing and warm clothing are of use. Galvanism of both legs under water is also useful, notwithstanding that many physicians and surgeons disparaged this remedy, and said it had been tried and found to be valueless. He (Mr. Adams) used two tin boots, filled with warm water, in each of which the little patient's foot is placed, and galvanism is applied. Dr. Gull had written some valuable papers on galvanism in the *Guy's Hospital Reports*. The nutrition of the limb must, if possible, be maintained. Dr. Junod's boot for exhausting the air was once in much repute, and is now, perhaps, too much neglected. A paralytic patient of his could always warm the leg in ten minutes by this apparatus; the boot has had no bad effects, but is liable to get out of order. It is, doubtless, a most useful remedy in many cases of paralysis. In some cases of infantile paralysis the rectus muscle remains paralyzed for life, and the leg swings; but this can be compensated for by mechanical means, so as to enable the child to walk.—*Med. Times and Gaz., May* 20, 1865.

The Relations of Therapeutics to Medicine.—It will be admitted by most thinking men that the study of diseased or healthy organization has revealed more of the effects than of the essence of disease. So subtle are the conditions by which the equality of life is preserved, that, in a vast proportion of instances of death, the most refined anatomy and chemistry fail in discovering a commensurate change, or in explaining why what was a living creature yesterday lies before us in a few hours a decomposing mass of clay. Hence, we must be cautious in extensively adopting any therapeutical system which is solely based on inference from visible organic change. In the present imperfect state of our knowledge, we must not neglect that study of therapeutics which is essentially experimental and inductive; and if there be one thing wanting more than another in our science, it is that men should know the nature and difficulties of therapeutic evidence. If, as I have often heard Professor Acland observe, only a few of our well-instructed brethren who are in charge of public institutions, well aware of the established laws of disease, whether essential or non-essential, and good observers, were to take

up any one remedy, whether new or old, say digitalis, and faithfully record on the one hand the character and history of the case, and on the other the results of the use of the particular medicine, or other therapeutical proceeding, we should erelong have such a mass of unbiassed statement of facts, that safe conclusions could be drawn. Until this is done, the position of therapeutics will be an inferior one. It will not be any trustworthy guide in practice, except in a few salient instances, and will be powerless in its other great function of being the key to, and the test of, pathologic conclusions.

To bring therapeutics up to this level seems to be the great desideratum. We may fairly hold that the time is ripe for the commencement of its study with the view to its higher functions or development. Without placing limits to the material investigations in which we are aided by the microscope and by chemistry, we may believe that our knowledge of the intimate structure and composition of the solids and fluids of the body is so extended as to give to the therapeutist reason for holding that he is now far better acquainted with the living organism than he was a quarter of a century ago; and that so he has a broader and more secure foundation to build upon. But the therapeutist must also possess assistance of another kind. He must know the principles of accurate reasoning; he must distinguish between the *post hoc* and the *propter hoc*; he must be content still to deal with vital phenomena as constituting a class of the nature of which our knowledge is so deficient, that we have still to study their modifications by external agents, experimentally, and without as yet much reference to their relations to structure or to vital chemistry; he must take into account the laws of periodic action in health and in disease, and determine, or seek to determine, as he proceeds, whether the simplest form of acute local as well as of general disease is not under some of these wonderful laws; he must study the question as to whether medicinal interference extinguishes morbid action, postpones it, or, by breaking its circle, as suggested by Professor Boeck, though this be followed by temporary good, deranges the process which is to end in its removal; he must well understand that certainty in medicine must be approached by the balance of probabilities, and have a full insight into the difficulties of medical statistics, which result from the labors of more than one observer. Other circumstances will suggest themselves to you—as the influences of locality, of race, of age, sex, habit, and previous history. I will not dwell on them, further than to remark that, had Broussais

attended to one of them, in particular, he would not, I think, have fallen into the error of declaring the non-existence of essential fever from observing disease within a narrow circle of the world.

If therapeutic science is to advance, it must be followed and studied in the most severe scientific spirit.—*Dr. Stokes' Address before Brit. Med. Assoc.*

THE BRITISH MEDICO-PSYCHOLOGICAL SOCIETY, THE JOURNAL OF MENTAL SCIENCE, AND THE LATE DR. BELL.—The following resolutions, it will be remembered, were adopted at the last meeting of the Association of Medical Superintendents of American Institutions for the Insane:

Resolved, That the editorial notice of Dr. Ray's Memoir of the late Luther V. Bell, M. D., as published in the British *Journal of Mental Science* for July, 1863, is regarded by this Association as containing an unjust aspersion on the character of its former honored President, and as such is unworthy of the Association of which the *Journal* is the official organ.

Resolved, That in anticipation of the annual meeting of the British Association, to be held in London during July, the Secretary of this Association address copies of these resolutions to the President and Secretary of our sister society, in the hope that it may reject all responsibility for and publicly disapprove an act which is as offensive to this body as an impeachment of their own venerable Conolly would be to our fellow laborers in a common field of philanthropy.

These resolutions have been responded to in a courteous and excellent letter by the President of the British Medico-Psychological Society, (late British Association of Medical Officers of Asylums and Hospitals for the Insane.) The letter places the Society *rectus in curia*, and conveys expressions of regret on the part of the author of the aspersive article in the *Journal of Mental Science:*

54 Upper Hadley Street, London,
Tuesday, 1st August, 1865.

John Curwen, Esq., *Secretary to the "Association of Medical Superintendents of American Institutions for the Insane."*

Dear Sir: On behalf of the Medico-Psychological Association, which has just held its meeting at the Royal College of Physicians, in London, I beg to acknowledge the receipt of your letter of the 21st of June, conveying a copy of resolutions adopted at the Meeting of the "Association of Medical Superintendents of American Institutions for the Insane."

The Medico-Pyschological Association and the Editor of the *Journal* (published in July, 1863, by their authority,) individually, have done me the honor to request that I would, as their President, reply to your communication; and they have given me full authority to make all possible amends for the hasty expression of political sympathies reflecting on the judgment and acts of your late esteemed President, Dr. Luther Bell, which appeared in that Journal, and which we all most sincerely regret, and no one of us more so than the Editor himself.

I should observe that the members of the Association entirely disclaim all responsibility for the opinions of the Editor, or of any other writer in the Journal, for they know nothing of what is forthcoming until it appears in print; and have, therefore, no opportunity to exercise any censorship on the tone or tendency of the articles produced.

We are all strongly of opinion that whatever may be the political opinions of one of our professional brethren, he should not, on that ground, be subject to animadversion in a scientific journal; and we feel bound to believe that the part which Dr. Bell took as a citizen of the United States, in giving his life for his country, was dictated by the same high sense of duty which had already led him to devote his best years to the responsible duties of his profession, and which had earned for him the esteem of his contemporaries and the grateful recognition of those who had benefited by his valuable services.

I hope that the unfortunate expressions in the passage referred to, and of which you had reason to complain, will not lead you to overlook the general spirit of the article, which you will observe was intended to give full credit to the high character and distinguished career of your former President.

Engaged in the same arduous and responsible duties, we are most desirous to cultivate the kindliest feelings with our brethren of the United States; and I trust you will accept the assurances of our earnest wish and resolution to guard the honor and protect the memory of one of your associates as jealously as we would had he been one of our own countrymen.

Believe me, Dear Sir,

Very faithfully yours,

WM. WOOD.

Dr. Brigham's Mental Hygiene.—We notice with pleasure that a new edition of the admirable little treatise on Mental Hygiene, by the late Dr. Amariah Brigham, has just been issued in England. The several editions published in that country, both before and since the author's death, were speedily exhausted. "The first," says Dr. McNish in a prefatory notice of one of the earlier editions, "was literally seized upon;" and the distinguished Mr. Cobbett, shortly before his death, declared his intention of having a cheap edition published at his own expense, "to abate," as he said, "the nuisance of infant schools."

In this country, the book has been out of print these many years; but its teachings were never more needed than at the present time. We would express the hope that the public wants may be met, ere long, by another American édition.

Resignations and Appointments.—We announce, with more than ordinary regret, the resignation of Dr. R. J. Patterson, Superintendent of the Iowa Hospital for the Insane. Iowa, although almost the youngest of our States, is surpassed by none in its excellent provision for the insane; and its superiority in this respect is, in a great measure, due to the exertions of Dr. Patter-

son. Few men are better suited by nature, education, professional acquirements and devotion to the welfare of the insane, to fill the position he has left, than Dr. Patterson. Upon Dr. Patterson's resignation, the Board of Managers of the Hospital adopted the following preambles and resolution:

WHEREAS, Dr. R. J. Patterson, Medical Superintendent of the Hospital, has resigned his office as such Superintendent;

WHEREAS, As such Superintendent he has been connected with this institution from its organization, nearly five years since, and as such officer has discharged his duties with fidelity, ability, and eminent success; therefore,

Resolved, (unanimously) That we deeply regret the necessity which has compelled such resignation, and desire to express, as we hereby do, our high appreciation of the faithfulness and integrity with which he has discharged the difficult and responsible duties of his office, and of his ever agreeable and satisfactory intercourse with the Board.

M. L. EDWARDS, *Secretary.*

Dr. Mark Ranney, Assistant Physician to the McLean Asylum, Somerville, Mass., has been elected Superintendent of the Iowa Hospital for the Insane, in place of Dr. Patterson, resigned.

Dr. C. Dewey, who has held the position of Assistant Superintendent of the Iowa Hospital since the opening of the institution, has resigned; and Dr. H. M. Bassett, of Ohio, has been appointed in his place.

Dr. Tilden, Resident Physician of the State Insane Asylum at Stockton, California, has resigned. Dr. G. A. Shurtleff, of San Joaquin county, has been appointed as the successor of Dr. Tilden.

General Hamilton, Provisional Governor of Texas, has appointed Dr. B. Graham Medical Superintendent of the State Lunatic Asylum, Texas.